

A Report on
The School of Allied Medical Professions

September 21, 1976

Almanac

Supplement to Volume 23, Number 4

TO THE UNIVERSITY COMMUNITY

In the pages that follow, Provost Eliot Stellar presents to the University community four of the many documents he has received as advice on the future of the School of Allied Medical Professions.

The report begins with Dr. Thomas Langfitt's original proposal to phase out the School and his memorandum setting forth his reasons. It continues with advice from two committees of the University—the Academic Planning Committee and the 1975-76 Steering Committee of Council serving as a reallocation review board—and it ends with the response of the School of Allied Medical Professions to the Steering Committee's report.

The SAMP matter is on the September 22 agenda of the University Council for discussion without action. Council's responses, along with these documents and others received by the Provost, will be considered in the coming weeks as the administration prepares its recommendations for a full meeting of the Trustees either October 28-29 or January 13-14.

Members of the University who wish to respond directly to the Provost may send material to him at 102 College Hall. Those who wish to publish their opinions in Almanac should send them to the editor at 515 Franklin Building.

A REPORT ON

THE SCHOOL OF ALLIED MEDICAL PROFESSIONS:

CONTENTS

A. THE PROPOSAL TO PHASE OUT SAMP

Letter from the Vice-President . . . 1
Reasons for the Recommendation . . . 2

B. ADVICE OF THE ACADEMIC PLANNING COMMITTEE

Letter from the Chairman . . . 3

C. REPORT OF THE 1975-76 STEERING COMMITTEE

Letters of Transmittal . . . 4
Introduction . . . 5

I. The Place of Professional Education
in the University . . . 6

II. The Need for Graduate-Professional Degrees
in SAMP Professions . . . 7

III. The Present Status and Potential for
Research and Scholarship:

A. In the Three SAMP Disciplines . . . 9
B. In the Present SAMP Faculty . . . 12

IV. The Budgetary and Resource Allocation Consequences
of Three Alternatives . . . 14

V. The National Status of SAMP Programs and
Their Role in Health Care . . . 16

VI. The Relation of SAMP to Other Parts of the University:

A. Other Schools . . . 18
B. Undergraduate Experience . . . 20
C. Women . . . 22

VII. Consequences for Relations with
Government and Community . . . 24

CONCLUSIONS AND RECOMMENDATIONS . . . 25

D. SAMP RESPONSE TO STEERING COMMITTEE REPORT

Letter and Response . . . 27

Almanac

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Supplement to Volume 23, Number 4
September 21, 1976

A. The Proposal to Phase Out the School

Office of the Vice-President for Health Affairs

April 29, 1976

Dr. Eliot Stellar, Provost
102 College Hall/Co

Dear Eliot:

As you know, a review of SAMP began in September, 1975, following the resignation of the Dean of the School and a request by the department chairmen for clarification by the central administration of its concepts of the future of the School and the commitment of the University to those concepts. As part of the review process, I asked that a staff report be prepared to include options for the future of the School and information to be used in evaluating the various options. The School's Acting Dean and department chairmen assisted in the development of material for the report which was completed in December, 1975. Since that time we have reviewed the options and suboptions identified in the report and explored the feasibility of additional options identified during the various discussions which have taken place since December.

It has been clear from the beginning that a change was needed. Although SAMP is currently among the leading allied health schools in the country and has maintained a balanced budget without the aid of discretionary subvention, the School cannot continue in its present form and at its present level of fiscal support without putting the quality of its programs at risk. The chairmen of the SAMP departments identified immediate needs to maintain the quality of current programs. The resources required to meet these needs would require a substantial increase in the University subvention to the School. Even with the resources to meet these immediate needs the ability to attract top faculty is seriously affected by the lack of graduate programs.

Additionally, an undergraduate professional school with post-baccalaureate certificate programs but no graduate degree programs is not the preferred model for professional education at the University of Pennsylvania. The mission of the University encompasses and, in fact, much of its reputation has been built on its unique blend of professional and liberal education. However, a clear distinction has been made between a professional school entirely at the undergraduate level and professional undergraduate programs that lead to advanced degree programs. There has been for some time general agreement that SAMP should develop

graduate programs, and the feasibility of adding graduate programs to the current baccalaureate programs or converting the School entirely to a graduate school was examined. Unfortunately, resources to develop graduate programs to the level where they would be a major portion of the school's total activity could not be identified.

Since SAMP currently absorbs no discretionary subvention it could be argued that it is currently "costless" and should be maintained in its current form until resources might be available for further development. However, no unit is "costless." Since there is a finite scale of the University there will be opportunities foregone in other parts of the University if SAMP is continued. These lost opportunities are of increased importance when neither the resources to assure continuing high quality in current programs nor to fully develop graduate programs and research are available. Additionally, to ask the faculty to continue to maintain quality by personnel commitment and sacrifice for an indefinite period would be unjust.

I would say for these reasons that I must recommend that the three programs in SAMP be phased out over a four year period. Because two of the programs, Occupational and Physical Therapy, have high national reputations this is an exceedingly difficult recommendation to make. An alternative to phasing out the programs completely has been identified recently. Based on preliminary discussions, it appears that Thomas Jefferson University is interested in the development of baccalaureate programs in these fields and would like to explore the acquisition of the Pennsylvania programs. If this were possible it would preserve a valued resource for the professions. I recommend that this be explored as an appropriate direction for the programs.

It is my understanding that you will refer this recommendation to the SAMP faculty, Academic Planning Committee and Steering Committee of the Council for review and advice. My office will supply the following for the committees: 1) copies of the Staff Report; 2) summary of additional material and options considered; 3) copies of relevant correspondence; 4) information on the status of SAMP relocation. This material and the data being prepared by your staff will provide background information for these groups.

It is also my understanding that the SAMP faculty will have ample opportunity to discuss the future of their school with the committees during this review.

Sincerely yours,

Thomas W. Langfitt, M.D.

REASONS FOR THE RECOMMENDATION TO PHASE OUT THE SCHOOL OF ALLIED MEDICAL PROFESSIONS OF THE UNIVERSITY OF PENNSYLVANIA

The School of Allied Medical Professions (SAMP) consists of programs in physical therapy, occupational therapy, and medical technology. The School does not have graduate programs; therefore, the terminal degree is a Bachelor of Science.

On April 29, 1976, I wrote a letter to Provost Eliot Stellar recommending that SAMP be phased out over a four-year period.

The sequence of events culminating in this recommendation began in August 1975 when Dr. Sidney Rodenberg, Dean of SAMP, resigned, stating as the principal reason for his resignation the inability of the University to commit additional resources to the School. In September 1975 work was begun on a detailed staff report to contain options for the future status of the School and criteria to be used to select one of those options. The staff report was prepared by the Office of the Vice-President for Health Affairs with the assistance of the Acting Dean and department chairmen in SAMP and was completed in December 1975. Extensive discussions were held with the Acting Dean and department chairmen, and additional options were identified. One of these options, transfer of the SAMP programs to the medical school, justifies special comment because it has been suggested by a number of individuals. Dr. Edward Stemmler, Dean of the medical school, concluded that this was not a viable decision, because additional funds for the SAMP programs would be required and these needs could not be placed high on the list of priorities for the medical school.

After repeated examinations of the staff report and many discussions with the SAMP Acting Dean, department chairmen, and others within the University, I recommended that SAMP be phased out for the following reasons:

1. A Dean with appropriate credentials cannot be attracted without a clear, long-term University commitment to the School.

2. Even to maintain the present quality of the programs, the School requires additional resources that the University has been unable to provide. In the Staff Report on SAMP, the department chairmen identified immediate needs, in order to maintain the quality of existing programs, requiring approximately \$250,000 (1975 dollars) per annum in additional funds. Master's programs, which both the School and the University administration agree are essential, would cost an additional \$170,000 per year. The total annual cost to achieve these goals exceeds \$400,000 (1975 dollars) and represents approximately a 50 percent increase in the School's direct expense costs. The costs would be primarily to support a 57 percent increase in personnel (faculty, administrative, and staff positions). In addition, approximately \$250,000 in one-time expenditures for equipment would be needed. Subsequently, the department chairmen stated they could accomplish the same ends without an increase in University support. We do not agree with their financial projections, and the proposed master's and new certificate program are unacceptable to the administration of the University.

Dr. John Hobstetter, Vice-Provost for Academic Planning, has estimated the cost of an "ideal" SAMP: a school with combined undergraduate and graduate programs; a faculty that would contribute regularly to the scholarly literature; and programs that would train professionals at the frontiers of their fields. Using cost information from other University professional schools (School of Social Work and the College of Engineering and Applied Science), the estimated additional income for the "ideal" SAMP would be in the range of \$1.25 million, an amount in excess of the School's total budget for fiscal 1977.

3. Federal funding for allied health programs is limited. If there is a change probably it will be for the worse because of the negative attitude of the federal government toward subsidization of health education and training. Furthermore, the School has not been able to attract funds from foundations or private donors. The budgeted endowment income for the School for fiscal 1977 is only \$16,000.

4. The School has lacked recognition and general acceptance on the University campus because of the limited opportunities for scholarship in the disciplines represented within the School.

5. Projections of health manpower needs are inadequate in allied health fields as is true in all of the other health professions. However, the number of positions in educational programs in physical and occupational therapy and medical technology across the nation appears to be adequate to meet manpower needs. Between 1970 and 1975 the number of student positions in accredited programs in occupational therapy increased from 563 to 2673

and in physical therapy from 1475 to 2687. The number of positions in medical technology decreased approximately 15 percent, largely due to closure of programs that did not meet accreditation standards. However, in 1975 there were still 7200 positions in medical technology throughout the country.

6. The recommendation to phase out SAMP is not directed toward allied health programs per se. For example, doctoral programs in audition and speech science are being developed by the medical school Department of Otorhinolaryngology and Human Communication in cooperation with SAMP. Dr. James Snow, chairman of the department, has stated that the alliance with SAMP is beneficial but is not essential to the development of these new programs. I have strongly supported the proposed programs because the fields are underdeveloped within the nation, they have an excellent scholarly base, and they will be fully integrated into the research and teaching efforts of the Department of Otorhinolaryngology and Human Communication. They are examples of allied health programs that fit well within the University of Pennsylvania.

7. The School of Nursing and SAMP often are compared, because they are similar and because there are contrasts between them and the other three health schools within the University.

The Schools of Medicine, Dental Medicine, and Veterinary Medicine confer doctoral degrees and provide extensive opportunities in postgraduate training. Each has a large health care component (hospitals and outpatient departments) as an integral part of the School, and they interact extensively in biomedical research, among themselves and also with other schools within the University. Therefore, at present neither Nursing nor SAMP is as central to the health area or to the University at large as are the other health schools, but the School of Nursing is changing rapidly.

Both SAMP and Nursing are professional schools with predoctoral terminal degrees and limited research programs. However, Nursing is further along in its academic development with seven existing master's programs, and a doctoral program is under University faculty review. A Center for Research in Nursing has been approved, and funding for the Center is being sought. Nursing has very close and expanding ties to the School of Medicine. For example:

- Medicine will not develop a "physician extender" program. This will be the exclusive responsibility of Nursing through the Family Nurse Clinician program.

- Nursing will be an integral part of the medical school postgraduate program to train physician generalists for primary care.

- Nursing is co-equal with Medicine and Dental Medicine in professional undergraduate education for primary care in ambulatory settings (a response to the Commission on Education for Primary Care).

- Nursing will play a progressively larger role in the service, educational, and research programs within the Hospital of the University of Pennsylvania as the hospital School of Nursing is phased out over the next two years. The new Dean of Nursing will relate to the administration of the University Hospital in the same manner as the Dean of Medicine.

The opportunities for development of nursing as a professional and academic discipline within the nation exceed those in most allied health fields, including the fields represented by the current programs in SAMP. In contrast to allied health, nursing is a single professional discipline albeit one with expanding, yet-to-be-defined boundaries. A major challenge for the future is to define the roles of the nursing profession in health care. In recent years, nurses have assumed tasks that were the responsibility of physicians and the trend is accelerating. With growing emphasis on primary care, health maintenance, and the psychosocial aspects of disease and well-being, nursing has the opportunity to take its place alongside medicine and dental medicine as an equal partner in the health care system.

The University of Pennsylvania provides an excellent environment to investigate the respective roles of nursing and medicine in health care and to determine if nursing in fact contains a unique core of knowledge that can serve as the foundation for a scholarly discipline. I believe the University cannot adequately support both Nursing and SAMP and I have selected Nursing for all of the reasons cited above.

— Thomas W. Langfitt, M.D.
July 1, 1976

B. Advice of the Academic Planning Committee

TO: *Martin Meyerson and Eliot Stellar*
FROM: *Britton Harris*
SUBJECT: *Report of Academic Planning Committee on SAMP*
DATE: *August 2, 1976*

Since it has been impossible to secure a full meeting of the 1975-76 membership of the APC since about mid-June, I am unable to report a unanimous position about the questions on the future of SAMP. A partially successful effort has been made to poll the committee by mail and the results returned in this memo combine the results of this poll with opinions expressed in the last three meetings of the committee.

Two options have very little support in the committee. The first of these is that the committee not take any action at this time. The second is a continuation of SAMP as presently constituted with increased resources. In the light of a certain amount of division over three other options, it is possible that a full meeting of the committee would reconsider its refusal to take no action.

Three other options appear to have roughly equal support of the committee and are in principle considered as alternatives which might be equally open to the University administration.

The first such option is to maintain SAMP at its present level of resources with its present program. This option is not preferred by any of the regular 1975-76 committee members. There is some doubt as to whether this is a feasible solution, because of uncertainty as to the extent of any need for additional resources under current circumstances.

The second option, which is preferred by at least two members of the committee, is to phase out SAMP. Several other members of the committee would find this an acceptable solution while two find it unacceptable.

The third possible solution represents a compromise. It is a proposal to continue SAMP subject to review at a specified future time with the objective of changing its character in accordance with a more fully developed plan in Health Care Education. The possible success of this approach depends on the possibility of defining a suitable role for SAMP and generating needed resources externally or within the Health Affairs sector of the University.

In the event that the University elects to phase out SAMP, a number of members of the committee wish to call to your attention the implications which this will have for the University's image with

respect to the education and employment of women.

I shall review this memorandum in September in connection with later reports of my poll of the committee and shall consider the extent to which it can or should be rewritten and expanded.

EDITOR'S NOTE

Members of the Academic Planning Committee for 1975-76 were:

Britton Harris, 1907 Foundation Professor of Transportation

Planning & City and Regional Planning (chairman)

Dr. Fay Ajzenberg-Selove, Professor of Physics

Arthur Balin, Graduate School Representative

Dr. Harold J. Bershad, Associate Professor of Sociology

Dr. Clifton C. Cherpach, Professor of Romance Languages

Dr. Helen C. Davies, Associate Professor of Microbiology (ex officio; chairman of the Educational Policy Committee)

David Freed, Undergraduate Representative

Dr. John N. Hobstetter, Associate Provost for Academic Planning

Dr. Robert Maddin, University Professor of Metallurgy and Materials Science

Harold E. Manley, Vice-President and Treasurer

Dr. Donald H. Silberberg, Professor of Neurology

Kathryn E. Slott, Graduate Student Representative

Dr. Eliot Stellar, Provost

Dr. Julius Wishner, Professor of Psychology

In accordance with 1975 University Council action, both the all-University Academic Planning Committee (above) and the Educational Policy Committee of Council are in the process of being reconstituted as a single committee called the Educational Planning Committee. Among the charges of the new committee is the reallocation review function initially proposed by the University Development Commission in 1973, to review proposals for reallocation that affect the future of programs. Early in 1975 the Steering Committee of Council agreed to serve (minus the President and the Provost) on an interim basis until the Educational Policy Committee was prepared to assume its review function. The proposal to phase out the School of Allied Medical Professions is the first such case to come before a Steering Committee acting in its reallocation review capacity.

C. The Report of the 1975-76 Steering Committee of Council

Serving as a Reallocation Review Board *Re: The School of Allied Medical Professions* August 6, 1976

Ralph D. Amado, Professor of Physics, Chairman
Virginia W. Briscoe, Graduate Student Representative
Cynda Chanenson, Undergraduate Student Representative
Eva H. Gelernter, Graduate-Professional Student Representative
Fred Karush, Professor of Microbiology

Herbert S. Levine, Professor of Economics
Barbara J. Lowery, Associate Professor of Nursing
Robert F. Lucid, Professor of English
W. Allyn Rickett, Professor of Chinese
J. Dirk Lorenz, Secretary

LETTERS OF TRANSMITTAL

Provost Eliot Stellar
102 College Hall/CO

6 August 1976

Dear Eliot:

Ralph Amado is out of the country, and I have been delegated by the 1975-76 Steering Committee, sitting as a reallocation review board, to present you with its report.

The report, which covers a broad range of issues and which provided both a base and a catalyst for our thinking, is accompanied by our recommendation concerning the School of Allied Medical Professions.

Much of the report was circulated among the interested parties earlier, but the committee decided to treat both the final report and the recommendation as confidential. The recommendation and a report "in broad outline" will be spread before Council at its September meeting, and Ralph will be present to respond to any questions or comments which may arise.

The attached documents were developed for your use, of course, and you should feel free to circulate them immediately in any way that you see fit. The committee does advise, however, that the final administrative decision on SAMP be deferred until after the Council has the opportunity to respond to our presentation.

Sincerely yours,
Robert F. Lucid
1975-76 Steering Committee
Faculty Senate Chairman

Prof. Ralph D. Amado, Chairman
1975-76 Council Steering Committee
303A College Hall/CO

9 September 1976

Dear Ralph:

The Reallocation Review Board's report and recommendations were presented to the 1976-77 Steering Committee at its meeting of September 7, 1976. The material did not require approval, of course, but since a report on the review is required to go to Council for its information, Steering needed to consider the material as a Council agenda item. Steering earmarked the material for the Council agenda of September 22—indeed it unanimously recommended that it be published in *Almanac* prior to the meeting—but two questions were raised.

First, Steering asked that the Reallocation Board review the recommendations to take account of the fact that the two options we recommended might prove unworkable. Steering felt that a more complete range of

options ought properly to be offered to the administration. Second, it was observed that the body of the report failed to focus on the possibility of a cooperative program with Jefferson University, yet one of our recommendations in fact consisted of the establishing of such a program.

Steering expressed the belief that a more effective discussion of the issues would be created if the Board addressed itself to these two points. I agree. What do you think?

Yours sincerely,
Robert F. Lucid
Chairman, 1976-77 Steering Committee

9 September 1976

Prof. Robert F. Lucid, Chairman
University Council Steering Committee
303A College Hall/CO

Dear Bob:

Thank you for your letter of September 9 and thanks to the Steering Committee for their attention to our report.

The 1975-76 Steering Committee serving as a reallocation review board for the School of Allied Medical Professions was well aware that its recommendations do not cover the full spectrum of possibilities available to the administration for SAMP. If anything our weeks of meetings, interviews and deliberations convinced us that that spectrum was far richer than it at first appears. Our recommendations are restricted to the two possibilities that we found most attractive and on which we could be nearly unanimous.

If the administration finds itself unwilling for internal reasons or unable for external reasons to implement either of them, we would prefer that they consult with us again, giving us some idea of the reasons and obstacles that lead to abandoning these first two. In that light we would be better able to consider other pathways.

We are also aware of the fact that the recommendation for a Jefferson affiliation does not grow organically out of the body of the report. A Jefferson affiliation was suggested in Vice-President Langfitt's original letter, and we explored it in interviews with him. However, our main report, as we stress, was written before our recommendations. It is intended to give a picture of the situation at SAMP and its relation to the University of Pennsylvania's goals and resources. The Jefferson recommendation, arrived at after the report was written, is intended to be a way to solve, at least in part, some of the contradictions that SAMP's situation presents in that report. It would, in a sense, be falsifying the data to go back and rewrite the report in the light of that recommendation. I need hardly add that although the committee is unanimous in approving this recommendation, it considered it to be completely outside its role to explore it with Jefferson.

Sincerely,
Ralph Amado
Chairman, 1975-76 Steering Committee.

Introduction

A BRIEF HISTORY

At the April 30, 1976 meeting of the University Council Steering Committee, the Provost asked the 1975-76 Steering Committee to serve as a reallocation review board to review the recommendation of Vice-President Langfitt that the School of Allied Medical Professions be phased out. The notion of formal reallocation review is a recent one for the University. It grew out of concern in the Senate Advisory Committee and in the Council for procedures associated with proposals made in early 1975 for possibly closing the Graduate School of Education. A subcommittee of the Senate Advisory Committee prepared a proposal for a formal reallocation review which after some revision was endorsed by the Steering Committee on March 31, 1975, and discussed but not voted on at the April 1975 meeting of Council. The Council seemed to approve of the idea but sought a number of refinements. Throughout the academic year 1975-76 the Steering Committee, working with the advice of the Senate Committee on Administration, attempted to refine the procedures. It was agreed, and announced to Council, that in the interim, while procedures were being developed, any reallocation recommendation requiring review would be taken by the Steering Committee (with the President and the Provost absenting themselves). The Steering Committee briefly considered taking reallocation review on as a permanent assignment but rejected the idea with the advice of the Senate Committee. By late spring of 1976 the Steering Committee had refined its document on reallocation review to the stage where all were substantially agreed on procedures but not on who should do the review. It ultimately was recommended by Steering that such a review be made an integral part of the charge of the new Educational Planning Committee being recommended by the Senate Committee on Administration. The first formal steps for the establishment of this committee were passed by Council at its May meeting. Hence when the recommendations for SAMP were presented to the Steering Committee in late April they clearly came under the interim procedures and were undertaken by the Steering Committee itself. The Steering Committee has tried to operate under the general guidelines of the proposals for a reallocation review board developed by the Steering Committee through the year. The latest draft of these proposals are appended to this report (Appendix A),* but it should be kept in mind that these are draft proposals that have never been passed by Council.

As a result of our experience with the SAMP review, we will no doubt have a much better idea how a reallocation review should be conducted and hope to prepare a report on this after our review is completed.

PROCEDURES

The Steering Committee, serving as a reallocation review board, has met some 32 times since April 30 and interviewed 25 people (a list of those we interviewed is appended to this report). Early on we decided to make our interviews relatively informal and not to have adversary proceedings unless they prove necessary. They have not. At all our meetings we have had Mr. Dirk Lorenz as our secretary. In addition at the interviews we have had a tape recorder. The tapes are on file if they are needed. The committee has also received a number of "official" reports and documents, a list of which is appended to this report. Beside the interviews and reports we have received many letters and solicited many more, we have met

informally with SAMP alumni and students, and we have discussed the matter informally with many student, faculty, and staff colleagues.

We have also been in contact with the Academic Planning Committee through their chairman, Britton Harris. They have urged us to move ahead to a report and a recommendation before having their formal report, largely because of the more extensive nature of our study of the issue. In particular, Professor Harris has reported to us the options for SAMP being considered by Academic Planning and we find we have also considered them in our work.

THE REPORT

From our interviews, the materials provided, and our informal contacts we made a first report covering the scope of the problem. This report was submitted to Vice-President Langfitt and to Dean Michels and the SAMP chairmen. They accepted it but, particularly the SAMP group, made a number of corrections and suggestions for changes and additions, many of which have been incorporated in this report. This report will form the basis for developing our reply to the President and Provost on Vice-President Langfitt's recommendations.

From our work thus far we recognize three formal alternatives for SAMP.

1. Expand SAMP into a professional school with a strong base in research and scholarship and firm intellectual ties to cognate disciplines so that it can be intellectually as well as professionally at the head of its fields.
2. Maintain SAMP as a school primarily for training professionals with some modest expansion into masters programs as the professions dictate. (Most options discussed in the Staff Report, SAMP reply, etc. fit this mode.)
3. Phase SAMP out.

There is another possibility that is less well developed formally and that we have not pursued. We recognize that it is not currently feasible to place all the SAMP programs in some other schools of the University, but opportunities for placing individual programs and for their development should be more fully explored.

By studying the role of professional education at the University, the professional and intellectual promise of the SAMP fields and of the SAMP faculty, the financial resources within and outside the University, the relation of SAMP to other University programs and to the community, we hope to recommend a choice among these three. To help obtain information on these questions, we have attempted to divide the issue as follows:

- I. The Place of Professional Education in the University. (*Amado*)
- II. The Need for Graduate-Professional Degrees in the SAMP Professions. (*Gelernter*)
- III. The Present Status and Potential for Research and Scholarship (A). . . In the Three SAMP Disciplines and (B). . . In the Present SAMP Faculty. (*Karush, Lowery*)
- IV. The Budgetary and Resource Allocation Consequences of each of the Three Alternatives. (*Levine*)
- V. The National Status of the Three SAMP Programs, and Their Role in Present and Future Health Care Developments Nationally and at the University of Pennsylvania. (*Lowery, Rickett*)
- VI. The Relation of SAMP to Other Parts of the University.
 - A. Interaction with Other Schools (*Lucid*)
 - B. The Undergraduate Experience at SAMP (*Chanenson*)
 - C. SAMP and the University: Women (*Briscoe*)
- VII. Consequences of a Phase-out of SAMP on the University's Political and Financial Relations with Various Levels of Government and the Community. (*Rickett*)

As is noted on the outline, each of these topics has been covered by one or more of the members of the committee. The separate reports have been reviewed by the entire committee, but we have made no attempt to conceal the individual origins of each.

*In mimeographed version only; available from the Secretary of the Corporation.

I. THE PLACE OF PROFESSIONAL EDUCATION IN THE UNIVERSITY

by Ralph D. Amado

We have found no evidence for viewing the proposed phasing out of SAMP as the first step in a plan to abandon undergraduate-professional education at the University. The University of Pennsylvania has twelve professional schools with many strong professional programs at the graduate and undergraduate levels, and these are part of a long tradition of "practical" education going back to our founding. We know of no proposal to dismantle these programs or to restrict them to graduate training only as a matter of principle. The University's approach to professional training is clearly outlined in the report of the Development Commission.

An excellent professional school should do three things. It should train highly competent practitioners and prepare them for continuing self-education. It should train excellent teachers to pass on the discipline of the profession to others.

... As its third goal, a professional school must engage in advancing the knowledge base on which the profession rests.

This is an articulation for professional schools of the goals of research and teaching common to the entire University. As the Development Commission report goes on to stress, it is particularly important that the research and scholarship as well as the teaching in the professional schools be broadly based in the many disciplines of the University so as to counteract a "tendency of professional schools towards rigidity," that is, a tendency for the training and scholarship to be too strongly inhibited by the parochialism of the profession of the school or of the neighboring professions. It is important therefore that students and particularly faculty in the professional schools, through their research and through their intellectual affiliations, see past the confines of the profession in order to lead the profession into new areas of service to society's needs and new relations with cognate disciplines.

In order to achieve the University's approach to professional training and the intellectual advancement of the profession, most of our professional schools are engaged in beginning professional training, advanced professional training, and research and scholarship. The faculty in these schools move among all three aspects of the program and each aspect benefits from its relation to the others. The faculty's research and scholarship is directed at broadening the knowledge base of the discipline and relating it to others within the University, not just to advance the professional training of the students but to advance the discipline itself. This mixture of beginning and advanced professional training set in the context of scholarship and linked to cognate disciplines with the goal of training not only beginning practitioners but professionals capable of growing and developing with their professions and in fact of being the leaders in that growth while advancing the discipline itself, is just the approach one would expect at a great research university such as ours.

These goals for professional training lead, in general, to a special view of undergraduate-professional education within the University. In general the bachelor-professional, although capable of being trained as an excellent "first-line" practitioner, seldom has the intellectual breadth, research sophistication, or perspective we are seeking. Therefore almost all our undergraduate-professional programs are set in a context of graduate-professional and scholarly education, and are not viewed as principally for training "first-line" professionals. For example, both in the Wharton School and in Engineering¹ the undergraduate-professional degree is viewed by faculty and students primarily as a step toward further education and in fact some 80% of graduates of these programs² go on to some graduate or graduate-professional training—not because the bachelor's level is not the appropriate beginning degree for the profession in question—it is—but because neither school views its primary role as the training of beginning professionals. Rather they hope to prepare individuals who through further professional training in the same or another subject or through scholarly training will extend the profession, its ties to other professions and its intellectual base. The School of Nursing is moving rapidly in this direction with its masters programs and the creation of a doctorate program, as well as through its involvement with the Medical School in new directions in health delivery. At present some 50% of the Nursing bachelor graduates go on to graduate training.³

The University's approach to professional undergraduate education which attempts to provide the foundation of professional training in a theoretical framework based on methodological as well as practical instruction and set in a liberal arts base is bound to produce a tension between the practical and the theoretical, between the professional orientation and the scholarly. But this tension, which expresses itself for example in the constant debates on curriculum content for professional education, should not be viewed as an attempt to end undergraduate-professional education at the University, but as an honest effort by all to provide the best professional training not for today's first-line practitioners but for the professional leaders of twenty years from now.

Measured against this "style" for professional education at Pennsylvania, the SAMP programs are atypical. They are primarily bachelors programs, aimed at producing "first-line" professionals. They do this very well, but there is no significant graduate-professional degree. There is also no significant research program associated with SAMP. In fact nationally there appears to be little scholarly research indigenous to the fields of SAMP, and with the exception of medical technology, little research interchange with cognate disciplines. In part this reflects the fact that the SAMP fields are relatively young and in a state of transition. Elsewhere we take up the question of the promise in the SAMP disciplines and in the SAMP faculty for such scholarship, interdisciplinary development, and growth in the health areas. On the question of graduate-professional degrees, particularly master's programs, there seems to be some difference of opinion. There is pressure in the profession (see below) and from the alumni for development in this direction, particularly for specialized training, but some of the SAMP faculty are correctly holding out against

* This report is drawn together from many sources but in large part springs from the testimony of President Meyerson, Provost Stellar, Vice-Provost McFate, Dean Carroll, and former Provost Reitz, as well as from informal conversation with Dean Humphrey, Associate Dean Bordogna, and Vice Dean Matthew Stephens.

giving a master's degree for what seems to be the undergraduate program "piled a little higher and a little deeper" and sometimes not even that. SAMP, if it is to continue, will probably have to move into master's programs, but we are confident that the high standards of the faculty will prevent these programs from being little more than a renaming of the B.S. degree. Even the development of such programs will still leave SAMP a school primarily directed at training practitioners, but one that does not have a full spectrum of graduate training and scholarship designed to advance its fields and broaden its contacts with other disciplines. Should the University of Pennsylvania have a professional school with such a limited perspective? If not, do the University, SAMP, and its disciplines have the intellectual resources for developing a broad based scholarly approach to the allied health fields? Does the University have the financial resources to develop SAMP in this way? These are some of the questions we must answer. Alternatively one can argue that SAMP is a healthy program in a needed area and hence should be allowed to pursue its goals and develop its scholarship at its own pace. Perhaps the University should be sufficiently flexible to have many styles of professional education—only being sure that each does its job well. If we did not have the present SAMP programs at Pennsylvania with their limited objectives, we would almost certainly not recommend they be established at this time, but there is considerable asymmetry between what we may choose to begin and what we may choose to terminate.

In summary, professional education, even undergraduate-professional education, is alive and well at Pennsylvania, but its place in the University comes not simply from training professionals, but also from research, scholarship, and intellectual interchange that broadens the profession and leads it in new directions. The professional schools at the University achieve this model in varying degrees but, except for SAMP, all seem clearly pointed at it. We need to ask whether SAMP too should be given that direction (option 1), be maintained as an exception (option 2), or phased out (option 3).

II. THE NEED FOR GRADUATE-PROFESSIONAL DEGREES IN THE SAMP PROFESSIONS

by Eva H. Gelernter

After reviewing a small number of journals of the professional associations, *The American Journal of Occupational Therapy* and *Physical Therapy*, it becomes obvious that both professions express the need for graduate education.

The following editorial appeared in *Physical Therapy* in 1970.

No longer can the Physical Therapist sit back and be content with a baccalaureate degree. The need for increasing specialized knowledge and skills in the areas of education, supervision and administration, research, public health, and the like necessitate in depth study on the graduate level. . . . Advanced study provides new knowledge resulting from conceptual and factual research, and in addition provides for the development of skill to carry on investigation—a prerequisite for all physical therapists today.¹

A review of the P.T. journals (9) indicates the following patterns: The largest number of articles are authored by individuals holding master's degrees, followed by doctorates, bachelor's, M.D.'s, and a small number of P.T. assistants (28, 21, 15, 9, 2). This is in contrast to the items in a section in the journal called "Suggestions from the Field" where various tools or techniques are shared by practitioners. The predominant degree for that group of authors is the B.S., then M.S. (11 and 6). Articles on practice management topics such as setting fees, establishing private practices, are authored by holders of baccalaureate degrees.

It is apparent that the basic entry level into the profession is the B.S. and that most clinical practitioners hold that degree.

Footnotes

1. There are four professional schools at Pennsylvania with undergraduate-professional degree programs—Engineering, Wharton, Nursing and SAMP. The following table (from the Development Commission report) gives a summary of the twelve professional schools.

Enrollment and Faculty in Professional Schools

	Pre-Baccalaureate		Post-Baccalaureate	
	Students	Faculty	Full-time	Part-time
Annenberg School of Communications	45 *	140	12	5
College of Engineering and Applied Science	490	1000	90	15
Graduate School of Education	475 *	600	43	28
Graduate School of Fine Arts	—	463	31	39
Law School	—	657	30	11
School of Social Work	—	220	32	10
		Post-MSW 55		
		Prof. 1100	260	124
Wharton School	1400		Ph.D. 750	
School of Allied Medical Professions	300	—	18	22
School of Dental Medicine	—	586	82	250
		649	620	1215
School of Medicine	—	MSN 100	51	7
School of Nursing Bacc.	152	MSN 25		
BSN	200			
BSN/pt	150			
School of Veterinary Medicine	—	348	105	15

* Students not admitted but taking courses.

2. For the Wharton School this figure comes from the testimony of Dean Carroll who pointed out that alumni careers had been followed to obtain it and that that accounts for it being higher than other University records indicate. For Engineering the figure was provided by Dean Humphrey.

3. From Professor Malinda Murray, Coordinator of Undergraduate Studies of the School of Nursing.

4. See Report III.

Advancement is based on experience. A large number of continuing education courses are given to enlarge the knowledge base of the practitioners, to provide up-to-date information and specialized skills. These are regularly advertised in the journals.

According to articles in the journals and confirmed by the faculty, another level of practitioners has entered the field, the physical therapy assistant. This group has taken over the more routine tasks under the supervision of the degree holding physical therapists. There is greater autonomy for the holders of the bachelor's and certificate graduates to pursue private practice and to work independently.

Lack of an advanced degree does not appear to be a handicap in advancement in the clinical practice as seen by the positions held by the authors (see below), but as the editorial states, there is now an emphasis in the field to pursue advanced degrees. Based on this brief review of positions and degrees held by the writers, it appears that individuals holding master's degrees are the ones setting the pace in research, writing, and teaching.

Authors with master's degrees predominated as instructors, assistant and associate professors (16). The others were mainly chief physical therapists, supervisors, coordinator of programs, and graduate students. Only one M.S. was listed as a staff therapist.

The position of authors with bachelor's degrees indicates that over half are chief physical therapists, supervisors, directors of programs (12). The others range from staff therapists to two

instructors. Several descriptions also indicated private practitioners. It is difficult to ascertain whether the master's degrees are in P.T. or other fields, but it is my impression that it is predominantly in other specialties. It is worth noting a similar pattern in the graduate degrees held by the SAMP faculty. The fields of education and human relations appear to be the most popular.

The journal also lists the number of universities offering master's degrees. There are currently six universities offering basic master's degrees (programs geared to students with a degree in other than physical therapy), and seventeen offering advanced master's degrees.

As indicated by Dean Michels in his letter of June 15, 1976, the Worthingham study² verified the increasing autonomy of the P.T. in deciding, evaluating, and modifying treatment. One conclusion which can be drawn from this is the need for a broad based, multi-level educational program to prepare professionals to enter a field where there is a great deal of autonomy in treating clients, and where there is also interdisciplinary work. The latter is verified by the authorships in the journals and by the fact that the skills of the P.T. are usually exercised in multi-disciplinary settings, e.g. hospitals, schools for handicapped children, nursing homes, etc. The need for advanced degrees is expressed in the professional literature, especially to fulfill educational and research needs.

According to another report by Dr. Worthingham, there has been an increase in faculty holding doctorates, but only a small increase in faculty holding master's degrees, from 49% in 1965-66 to 51% in 1968-69.³

Probably this number has increased since then, but it appears to be an important consideration for the profession.

I used the same procedure to review the need for graduate degrees in occupational therapy. *The American Journal of Occupational Therapy* was scanned. In contrast with the P.T. journals, a large number of authors (35) were listed as O.T.R. (Occupational Therapist Registered which indicates a baccalaureate or certificate degree. Assistants are listed as C.O.T.A.—Certified O.T. Assistant). Master's degrees were second (30), followed by Ph.D.'s (13) and M.D.'s (7). This can be partially due to a large number of articles being co-authored with one person holding an M.S. and often two O.T.R.'s. As with the *Physical Therapy Journal*, a substantial number of articles were co-authored with other professionals such as psychologists.

Positions given again verify that the majority of authors holding master's were in teaching positions (11) followed by directors of programs, research assistants, students, senior O.T.'s, and various other positions. Only one position is listed as simply O.T. implying a staff therapist.

Of the bachelor degrees, the majority were listed as staff therapists (17), then supervisors, department heads, senior therapists, etc. Three were listed as instructors.

It becomes obvious that, as with P.T., the professional clinical degree is the B.S. People with advanced degrees are usually in the top positions, as administrators and in teaching though the baccalaureate degree does not preclude professional advancement.

Of interest are several studies which provide the following information: The first master's degree program was established by the University of Southern California, Los Angeles, in 1948. Within the next ten years, three additional programs were developed. The greatest expansion occurred within the years 1976 and 1973 when ten master's degree programs were founded. The American Occupational Therapy Association (A.O.T.A.) listed seventeen master's programs and one doctoral. Since September 1973, four of the master's programs listed have been discontinued due to lack of funds and insufficient faculty to maintain the programs.⁴ As of September 1975, the A.O.T.A. listed ten master's programs for students with a degree in other than O.T. (basic master's degree) and 14 master's programs for registered O.T.'s (advanced master's degree). Five universities offer both programs.

A study on the effectiveness of master's degree programs suggests

that they encourage independent inquiry, provide for the individual's academic needs, and prepare researchers. Ms. Maxfield (M.S. Dip. O.T.) also concludes that the programs are only partially fulfilling the requirements of the profession for skilled practitioners and educators. Other findings of interest in her study is her comparison of the O.T.'s earning advanced degrees in occupational therapy to the O.T.'s with other graduate majors. The graduates with majors in O.T. are employed mainly in administration and university or college faculty positions. Only 8% of the group of graduates are employed as staff therapists while 20% of the group of graduates with other majors held positions in that category. The other advantage to the profession in building its own master's programs is that graduates from O.T. programs are more likely to remain in the profession than the O.T. who graduates from other fields of study at the master's level. One figure cited verifying the same information was 90.83% for the first versus 65.61%.

A study done in 1971 on Women Occupational Therapists⁶ (86% of the profession is female) provides the following information: About 6% of registered therapists in 1963 had earned graduate degrees whereas in 1970 graduate degrees had been awarded to 8.8% of female therapists. Persons holding doctorates were few in number (15), although the number had at least trebled over a seven-year span. Of the 521 women with master's degrees in 1971, 357 were for graduate majors other than O.T. This figure rose to 31.5% by 1970. Information provided by SAMP indicates a large increase in the number of registered occupational therapists holding master's degrees. The total as of 1975 is given as 1498—of this number, 691 (48.7%) are in occupational therapy and 807 (50.1%) received master's degrees in other fields. These figures do not distinguish between male and female occupational therapists.

Alice C. Jantzen, Ph.D., O.T.R., has written on the characteristics of the female O.T. as well as on the need for competent faculty in the field. She points out that the basic professional education in occupational therapy focuses almost exclusively on preparation for clinical practice and that the lack of adequate numbers of competent faculty appears to constitute a major obstacle to expansion and improvement of education for all health professionals.⁷

She studied the full-time faculty at institutions of higher learning (135) and compared that group to the same number of clinical practitioners. She found that faculty members holding graduate degrees constituted 65.9% (89) of the faculty compared to 8.1% (11) of the practitioners. "The fact that at the present time only two-thirds of full-time faculty in universities hold degrees higher than bachelor's level should be cause for academic concern."⁸

This lack of personnel with graduate degrees and research background has been corroborated by the faculty at SAMP. They appear to be above average in their educational background and experience, and, as with the majority of the field, they also tend to be practice-oriented.

In an address to the profession,⁹ Dr. Jantzen points out that clinical teaching has not been well recognized.

Universities no longer consider competence in the doing, as demonstrated by performance as practitioners, is sufficient for faculty status. We are expected to be more than clinicians and teachers, we are expected to be scholars, and to contribute to knowledge. Thus, universities generally require that faculty candidates have earned the highest degree available in their particular discipline. For us presently that is a master's degree. The fact that most of us with graduate degrees have them in other fields points to the realization that in terms of knowledge areas we do not yet provide the necessary spectrum of options for our own field.

Both the P.T. editorial quoted earlier and Dr. Jantzen's remarks appear to express the need and awareness of the profession of the importance of graduate education and scholarly research.

Medical technology is a very different discipline from the other two, not only in its relationship to the basic sciences, but also in its graduate education, which is based on specialization in one of at least five biomedical areas. A review of articles published in the *American Journal of Medical Technology* did not yield informa-

tion which could be compared to the two other fields. The positions held by authors are not clearly delineated and in a number of cases no degrees were listed. Professor Brown (SAMP) verified the difficulty in obtaining this type of data from one multi-discipline journal. Medical technologists with graduate degrees tend to publish in the journals of their particular discipline such as the *Journal of Hematology—Blood*; *Clinical Chemistry*; *Journal of Immunology*, etc.

The impression I obtained from the few articles dealing with education in the *American Journal of Medical Technology* was a concern with continuing education for clinical laboratory personnel.

Studies done in this area indicated that advanced education and training were desired by technologists from all levels of education except that of doctoral degree.¹⁰ Without indicating the degrees held by supervisors, one study investigating major assumptions that exist concerning clinical laboratory manpower, indicated that supervisory positions are predominantly held by laboratory personnel certified for a longer period of time and more highly educated. The less educated individuals are essentially performing laboratory tests. The more highly educated are employed in larger hospitals while the nonbaccalaureate personnel were more willing to work in laboratories of smaller hospitals.¹¹

As with occupational and physical therapists, there are several entry levels into the profession. In the clinical laboratory services, each educational level delineates more complex occupational functions.¹²

Though the professional clinical degree is the B.S., graduate degrees are becoming increasingly important not only in research and teaching, but for supervisory positions. Federal regulations (39 F.R. No. 183, 9/19/74) now require that supervisors of clinical laboratories possess either a doctoral degree or a master's degree from an accredited institution with a major in one of the chemical, physical, or biological sciences, as well as experience in an approved clinical laboratory. For the position of laboratory director, a doctoral degree is required.

The Commonwealth of Pennsylvania has followed this lead in upgrading the qualifications of the clinical laboratories personnel. Title 28—Dept. of Health, Bureau of Laboratories (28 PA. Code CH. 5) specifies that the qualifications of a supervisor include either a doctoral degree and two years' experience, or a M.A. or M.S. degree with a major in medical technology and four years' experience, or a B.S. or A.B. with at least six years' experience.

Professor Brown estimates that there are about 1700 independent laboratories which will be affected by these regulations. This means a definite increase in the need for well-trained technologists with graduate degrees. According to this information, the need for personnel will continue as eventually hospital laboratories will be affected by these regulations as well.

It is my impression that the allied health professions have recognized the need for graduate degrees to provide not only personnel, but leadership.

Footnotes

1. Editor's Note, *Physical Therapy*, 50, #2 (February 1970), p. 165.
2. Catherine A. Worthingham, "Study of Basic Physical Therapy Education: V Request (Prescription or Referral) for Physical Therapy," *Physical Therapy*, 50, #7 (July 1970), pp. 989-1031.
3. ———, "Study of Basic Physical Therapy Education: VI Findings of the Study on Relation to Trends in Patient Care and Education," *Physical Therapy*, 50, #9 (September 1970), p. 1326.
4. M. Fay Maxfield, "The Effectiveness of Master's Degree Programs for Occupational Therapists," *The American Journal of Occupational Therapy*, Vol. 29, #4 (April 1975), pp. 213-218.
5. Alice C. Jantzen, Part II, "Some Characteristics of Female Occupational Therapists," *The American Journal of Occupational Therapy*, Vol. 26, #2 (March 1972), p. 75.
6. ———, Part I, "Some Characteristics of Female Occupational Therapists, 1970," *The American Journal of Occupational Therapy*, Vol. 26, #1 (January-February 1972), pp. 19-26.
7. ———, Part III, "Some Characteristics of Female Occupational Therapists," *The American Journal of Occupational Therapy*, Vol. 26, #3 (April 1972), p. 151.
8. *Ibid.*, p. 153.
9. ———, "Academic O.T.—A Career Specialty," *The American Journal of Occupational Therapy*, Vol. 28, #2 (February 1974), pp. 73-81.
10. Carol S. Gleich, Bill C. Snider, Kenneth McDonald, "An Investigation of Continuing Education Hypotheses About Laboratory Personnel," *The American Journal of Medical Technology*, Vol. 41, #5 (May 1975), pp. 185-193.
11. Gleich, C.S. and Routh, J.L., "On Statistical Significance Testing of Hypotheses Concerning Clinical Laboratory Manpower," *The American Journal of Medical Technology*, Vol. 40, #4 (April 1974), pp. 156-164.
12. Martin H. Rosenfeld, "Organizing for Allied Health Education in Educational Institutions," in *Educating Personnel for the Allied Health Professions and Services*, ed. E.J. McTernan and R.O. Hawkins, Jr., St. Louis, The C.V. Mosby Co., 1972.

III. THE PRESENT STATUS AND POTENTIAL FOR RESEARCH AND SCHOLARSHIP

by Fred Karush and Barbara J. Lowery

A. . . IN THE THREE SAMP DISCIPLINES

The three SAMP disciplines appear somewhat different in the present status of their research. Moreover, the kinds of research currently carried out and potential areas of study for each group are quite different. Therefore, they shall be considered separately in this report.

Physical Therapy

Hislop provides a physical therapist's view of the present state of research in the field:

Physical therapy today is in the midst of a crisis of identity; it is, indeed, a profession in search of an identity. . . . Despite all our recognition, despite all our acceptance, despite all our disclaimers, we have not arrived and our survival is not assured.

. . . The reason for physical therapy's vulnerability is that it is relatively defenseless against the leviathan of modern science. Physical therapy has a soft underbelly because its science is in disarray. (Hislop, 1975, p. 1070.)

. . . Physical therapy stands at what could be the beginning of a new era; an era in which science is our quest and humaneness our expression; an era in which physical therapy can constitute a bridge over which science and man's dignity maintain contact. (Hislop, 1975, p. 1079.)

Hislop goes on to stress that the science underlying physical therapy is pathokinesiology, the study of abnormal human motion, and that the future research base must be strongly pointed in that direction with a foundation in anatomy, physiology, pathology, biochemistry, biophysics, and psychology. While it is difficult to determine what is the actual scope and direction of current research

in the field, several sources have been utilized to try to generate such a picture.

Physical Therapy, the journal of the American Physical Therapy Association, has published lists of theses and dissertations written by physical therapists (A.P.T.A., 1972, 1973, 1974, 1975, 1976). These listings cannot provide information about the quality of the research. Further, theses and dissertations are obviously only a small part of the research that should be ongoing. However, such a list does provide an overview of the kinds of research that have been carried out in the field.

Thirty-eight categories used in the journal to classify the titles are reduced in Table 1 to six major categories. The review includes 725 studies reported from 1928 through 1975. Thirty-five percent of the studies reported fall under category VI, the area in which most basic research might fall. A review of the titles in this group indicates that 33% of these studies can be classified as basic research, i.e., that which is primarily directed toward understanding of laws without regard to the application of results. Categories IV and V are next highest in the number of listings reported, 30% and 17% respectively. Both of these categories include research which is applied or clinical in nature, i.e., research which is primarily concerned with using existing knowledge to solve specific practical problems. Thus 83% of the studies listed either generate new knowledge or apply knowledge to problems of the discipline. The other three categories comprise the remaining 17% of the research efforts.

Since the listing includes the degree received and the date it was received, several other observations seem relevant. Ten percent of the listings cover the 21 years from 1928 to 1949; 10% the 1950-59 decade; 43% the 1960-69 decade; and 37% the six years from 1970-75. Thus, the amount of research in the field (or at least the number of master's and doctoral candidates completing requirements) has increased substantially since 1960. Moreover, 60% of the 63 Ph.D. listings occurred in the 40 years before 1970 while 40% of them have been submitted in the last six years.

A review of a small nonrandom sample of articles from the *Physical Therapy* journal gives another overview of the scholarship of the field. Three types of articles appear: profession-oriented, procedure-oriented, and research. The research comprises about 25% of the articles presented and, with few exceptions, is clinical and not basic in nature. Several witnesses from the SAMP faculty said that research carried out by individuals from their disciplines would be found in other nondiscipline journals. No attempt was made to survey other journals for such data.

In summary, this brief review suggests that both basic and clinical research are emerging in the field. Most of the research is directed toward the study of human motion or dysfunction of human motion and clinical problems associated with this dysfunction. While the cadre is still small, the number of doctorally prepared individuals who might increase these research efforts has grown substantially since the 1960s.

Occupational Therapy

"Occupational therapy is an applied social science, eclectically drawing upon the biological, social, and behavioral disciplines for our basic understanding of man, occupation, and socio-organizational systems" (Johnson, 1973, p. 235). This definition of the discipline gives some indication of the directions for research and scholarship in occupational therapy. It should be noted at the outset, however, that the present status and future directions of scholarly effort in occupational therapy are not as readily discernible as those in physical therapy. While the two fields apparently emerged during World War I, physical therapy may have moved more rapidly because of its substantially larger proportion of males and the access to higher education afforded them. In any event, the following reviews are an attempt to shed some light on the present and potential research and scholarship in occupational therapy.

The American Occupational Therapy Association Loan Library furnished the Review Board with a list of theses and dissertations covering the years 1951 through 1975 (A.O.T.A., 1976). This list includes only those projects which were funded by HEW through the AOTA. While such a listing has the same limitations mentioned

Table 1

LISTED PHYSICAL THERAPY RESEARCH 1928 - 1975 THESES AND DISSERTATIONS

Type of Research	Total Listing	% of Total Listing
I. Administration	12	2%
II. Education	96	11%
III. Health Care	30	4%
IV. Evaluation of Therapeutic Activities	212	30%
Cold—15		
Heat—18		
Electrotherapy—9		
Massage—9		
Orthotics—4		
Physical Educ.—20		
Therapeutic Exercises—55		
Ultrasound—5		
Ultraviolet—1		
Physical Therapy—42		
Hydrotherapy—2		
Tests & Measurements—43		
V. Specific Diseases or Dysfunctions	120	17%
Amputations—10		
Hemiplegia—17		
Mental Retardation—5		
Pediatric Problems—21		
Poliomyelitis—10		
Scoliosis—4		
Contractures—2		
Geriatrics—1		
Arthritis—14		
Cancer—2		
Cerebral Palsy—16		
Chest—3		
VI. Structure and Function	255	35%
Anatomy—16		
Circulation—17		
Functional Anatomy—83		
Motor Nerve Conduction—6		
Nervous System—24		
Kinesiology—4		
Psychology—17		
Physiology—58		
Gait—7		
Respiration—15		
Speech—2		
Perceptual Motor Function—3		
Neuroanatomy—3		

Table 2

OCCUPATIONAL THERAPY RESEARCH IN AOTA LIBRARY: 1941 - 1975

Type of Research	Total Listing	% of Total Listing
I. Socio-organizational	15	11%
II. Psychological	19	12%
III. Specific Diseases and Dysfunctions	60	40%
Mental Retardation—5		
Hemiplegia—1		
Stroke—2		
Aging—4		
Parkinson's Disease—1		
Psychiatric Disorders—15		
Blindness—1		
Children (Learning Disabled, Cerebral Palsied, etc.)—21		
Physical Handicapped—4		
Heart Disease—1		
Drug Addiction—1		
IV. Procedural Evaluation	11	9%
V. Education	17	13%
VI. Administration	8	5%
VII. Occupational Therapy	11	9%
VIII. Health Care	2	1%

earlier, it appears to reflect directions of research in the discipline. The 139 listings classified into eight categories for the purpose of review are listed in Table 2.

Forty-nine percent of the studies fall in category III and IV, the clinical research areas. Within this category research related to exceptional children and psychiatric problems is predominant. Unlike the physical therapy listing, basic research is not included in the listings.

The list also indicates the degree earned and the date received. As was true with physical therapy, 50% of the listings have occurred since 1970, a clear indication that research and higher education are becoming more important to the field. Further, of the 15 Ph.D.'s listed all but two were earned since 1970.

Review of a small number of *Occupational Therapy* journals suggests a similar picture. In those reviewed, about 8% of the articles were research-oriented. On closer examination, a pattern suggested by Professor Ellis (SAMP) does appear. She stated that the research of A. Jean Ayres, OTR, Ph.D., into the sensory integrative function of disabled learners might be considered a most important recent event in the field. A survey of the journals shows that Ayres's research appears regularly from about 1960 to present. The September 1973 edition of *Occupational Therapy* focuses on the application of Ayres's research to work with hyperactive, learning-disabled children and the October 1974 issue applies the research to work with schizophrenics.

Thus, the current and future research areas suggested by Professor Ellis, the sensory-integrative functioning of learning-disabled children and cognitive analysis of schizophrenia, are appearing in the literature, albeit in an extremely limited sense. Further data on the research of the field, provided by Professor Ellis, are appended to this report.

Medical Technology

Medical technology is based on an integration and orientation of the natural sciences with their major clinical sciences including microbiology, clinical chemistry, hematology, and immunology, and radiobiology assay (Staff Report, p. 9). The medical technologist uses strategies and techniques such as microscopic studies, instrumental analyses, direct analysis, detection and tracer studies, and cultural and differential studies to evaluate physiological function and structure of the body (Staff Report, p. 10). Specialization in medical technology directs the student toward one of the clinical sciences underlying the discipline. Thus, the practice of the discipline is closely linked with science at the baccalaureate level (see Dual Degrees, Staff Report, p. 62) and its graduates go on to further study in basic science areas at both the master's and Ph.D. levels (Staff Report, pp. 9-12). Thus, this discipline seems more likely to generate research and scholarship than the other two groups previously described.

The major difference between the medical technologist who goes on to a Ph.D. in one of the sciences and another individual who majors in science at both the undergraduate and graduate levels is that the medical technologist has gained a generalist view of all the clinical sciences and the clinical practice which is not usually offered in Ph.D. programs (Professor Brown, SAMP). The research reviewed in the following paragraphs might then be viewed as clinical science research and not necessarily the research unique to medical technology.

The journals provided by the SAMP faculty for review of medical technology research proved inadequate for determining the present status of research by medical technologists. While 40 percent of the articles in *Medical Technology* are research-related, it is not clear whether or not the M.S. or Ph.D. who submitted the research is a medical technologist.

Medical technology does not have a theses and dissertation listing such as those used to describe the research interests of the other two disciplines. When asked to provide some information about research in the field Professor Brown, in consultation with

seven other directors of medical technology programs across the country, provided the following list of the kinds of research carried out.

- I. Analysis and characterization of biological systems and tissues.
- II. Identification and study of cellular and sub-cellular components and their origins/applications to disease.
- III. Characterization and analysis of organisms, elements, and compounds as they affect laboratory analyses.
- IV. Design, evaluation, and monitoring of the function of instruments.
- V. Development of techniques and methods of analyses and statistical parameters of evaluation.

According to Professor Brown, an example of the kind of research which might come under Category III is the work of Winsted, who analyzed the effect of water used in the laboratory on the laboratory analyses. Rousch and Fryer developed the concept of using statistical analyses to monitor the accuracy of results in laboratories, an example of Category V. These two studies have apparently provided the basis for a recent change in government procedures for monitoring laboratory outputs (Brown, SAMP).

While the limitations of such a small, nonrandom list seem obvious, the titles of nine theses carried out by graduate students in medical technology at the University of Vermont give a more specific indication of research interests in the field (Titles submitted to Professor Brown for the Review Board).

1. Protein Turnover in Mammalian Cells.
2. Coagulation Method for Serologic Identification of Group B Streptococcus.
3. Comparison of Methods used in Recovery of Strict Anaerobic and Facultative Organisms.
4. Check Systems for Instrumentation in the Clinical Laboratory.
5. Analysis of Mercury by Flameless Atomic Absorption.
6. Binding of Calcium by Albumin Measured with Ion Selective Electrode.
7. Measurement of CO₂ Content by Carbonate Ion Selective Electrode.
8. Separation of Alkaline Phosphatase Isoenzymes by their Layer Gel Chromatography.
9. Application of Thermister Probe as Standard for Temperature Measurements.

In terms of the potential for further research and scholarship, medical technology again differs from the other two disciplines. According to Professor Brown, it is a much larger profession with about 100,000 in the field, 3% of whom have gone on to earn a Ph.D. in a clinical laboratory science field. Thus both the nature of the discipline and the numbers of medical technologists who have earned Ph.D.'s suggest a potential for continuing growth of the clinical research relevant to the field. However, it appears that this field, unlike occupational therapy and physical therapy, tends to lose its members and its identity as it moves toward research and other scholarly efforts.

Conclusions

Each of the three SAMP disciplines has delineated areas of research and scholarship relevant to its practice and necessary to its future. In each case the major thrust of the research is clinical in nature. If the mission of the University is limited to the furthering of basic research, then none of the three SAMP disciplines falls within the research mission. If, on the other hand, the University views its research mission as one of furthering basic knowledge and its clinical application then these disciplines may eventually fit within the mission.

Assuming that the University's goals include both basic and clinical research, another problem must be considered. The overview suggests for physical therapy, and especially for occupational therapy, that research efforts are only beginning to become a part of the disciplines' goals. Thus, the amount of research currently accomplished and the numbers of doctorally prepared individuals who might extend research and scholarship in

the fields are both quite limited. Should the University move in the direction of strengthening these areas (Option 1), the problem of finding individuals who can effect the change will be paramount. There are some individuals in both fields who seem to be leading the research efforts, both basic and clinical, but the pool seems extremely small.

Medical technology seems to generate a different kind of question. On the one hand, this group is the one most closely associated with and active in scientific research and it is the group generating the largest numbers of Ph.D.'s. Viewed this way, medical technology might be the easiest of the three SAMP disciplines to build. Alternatively, one could argue that the medical technologist's role is primarily technical and that the research relevant to the field is carried on by individuals prepared at the graduate level in the basic sciences. These individuals may or may not have used medical technology as the stepping stone to the other scholarly accomplishments. Viewed in this way, medical technology may be the least important discipline to consider in planning future directions for graduate study at SAMP, since advanced study opportunities in the basic sciences already exist at Pennsylvania.

The final question which must be answered is whether or not the present SAMP faculty provide an adequate research and scholarship base upon which to build future programs. This question is addressed in the next section of this report.

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B. . . IN THE PRESENT SAMP FACULTY

The research activity and potential of the SAMP faculty parallels, to some extent, the current activities of their specific fields. First, as was noted earlier, there are few doctorates in the fields although the number is increasing. The present SAMP faculty includes only four individuals with doctorates. Thus, the review of the level of research and scholarship must be seen in this context. Secondly, the research which is carried out in the school also fits the general pattern of the three SAMP disciplines. Medical technology faculty have the largest number of research publications, seventeen, while physical therapy has five and occupational therapy one. Further, the SAMP faculty centers much of its publication effort around professional organization activities and professional education, a pattern similar to that noted in the journal overview. A more detailed review of the research and scholarship of the senior and junior faculty follows.

Comments about Faculty in the Ranks of Associate and Full Professor

There are six individuals in this category, of whom four are tenured, with ages ranging from 39 to 58. One individual holds a doctorate and three others are enrolled in doctoral programs. The publication records of four of these individuals include a total of 63

articles. Of these 41 seem professional in orientation, 17 procedural in orientation, and the remaining five research. For the most part these faculty have been or are very active in their professional organizations. Two of the six individuals have no publications, of which one is in the terminal year of appointment.

Comments about Current Assistant Professors

There are seven assistant professors of whom three hold the Ph.D. degree and three others are doctoral candidates. Each of the two Ph.D.'s in the department of medical technology has several papers in basic science journals co-authored by a senior faculty member from another school of the University. Of their 15 publications, 14 are basic research in orientation and one is education oriented. Three of the other assistant professors have one publication each and two have none.

Prognosis

With respect to the senior faculty it would be unrealistic to expect that they could become substantially involved in scholarly research activities. Their earlier training and experience as well as their commitment and preoccupation with the teaching of their professions and with administration virtually preclude the basic reorientation required for such involvement. It is, furthermore, unlikely that they can serve as the role models and/or nucleus for the development of scholarly research among the junior faculty.

Among the junior faculty a limited but significant involvement in scholarly investigation appears possible. As might have been predicted, the greatest amount of research is being carried out in the sciences related to medical technology. This research involves participation in projects centered in other parts of the University. The potential for scholarly research of the junior faculty in O.T. and P.T. is difficult to predict, but thus far their publication record is not encouraging.

APPENDIX TO III B

July 14, 1976

TO: Ralph Amado, Chairman, Steering Committee, University Council
FROM: Nancy B. Ellis, Occupational Therapy Department, SAMP

RE: Status of Research in Occupational Therapy

The members of the Steering Committee whose task it was to evaluate the status of research in the fields of medical technology, occupational therapy and physical therapy had a difficult job because, at least in occupational therapy, there is no central source of data on research within the profession. Committee members worked hard to identify source materials and to analyze the contents of these materials. I fully understand that it was not possible for committee members to undertake an analysis of the contents of the American Journal of Occupational Therapy, but I am concerned that the data which the committee has at its disposal be as comprehensive as possible. For this reason I have pursued this topic and offer the following supplemental information relevant to research in occupational therapy.

Research in Occupational Therapy

Research productivity in any profession or discipline should be measured with reference to the academic attainments of its members. This is particularly true in a profession which is young and in the process of developing its identity and its body of knowledge.

The Ph.D. degree has traditionally marked the basic depth of knowledge in a field necessary for an individual to undertake original scholarly inquiry. To a lesser extent, this depth of knowledge may be developed at the understand why research activity has emerged as a significant factor in occupational therapy primarily during the past decade, as shown by the data in Table I opposite.

Using this information for perspective, two sets of data have been developed. The data are based upon a survey of the contents of the *American Journal of Occupational Therapy* 1947-1976. The *Cumulative Index of the AJOT* 1947-1971 was used as the basic reference document. The table of contents of each of the succeeding volumes of *AJOT* (XXVI-XXX) was used to obtain data from 1972-May 1976. Inspection of specific articles was utilized when the title of the article did not clearly indicate the nature of the article. The information in Table II has to do with the subject matter of research in occupational therapy and in Table III with the quantity of research over the past three decades.

Lastly, a listing of article titles was prepared to provide information on the specific focus of research activities.

The data indicate that occupational therapy is a profession which has grown and continues to grow rapidly. It also indicates that the profession is actively and purposefully evolving from a practice orientation largely

pragmatic in nature to a theoretical orientation which is increasingly empirical.

Research carried out by occupational therapists is making a unique and important contribution to the knowledge base in two specific areas of human behavior: sensory integrative and socio-cultural developmental processes. Occupational therapists apply this knowledge to a wide range of health care problems from learning disabilities in childhood and disorders of the adult central nervous system, such as cerebro-vascular accidents to psychoses and problems associated with aging. The potential for interdisciplinary scholarly linkages to other health care professions are self-evident.

Scholarly linkages to disciplines not primarily health-oriented include biology (particularly the area of ethology), psychology, sociology, and anthropology.

—Nancy B. Ellis

Table I. Occupational Therapists Census^{1 2 3}

	1949	1963	1975
1. Number of Certified Occupational Therapists	2,100	6,105	12,235
2. Number of Therapists Holding Advance Degrees	57	389*	1,552**
a) Masters degree	—	317	1,498
b) Doctoral degree	—	5	54

*Listed in AOTA records. 80% (N = 322) responded to a questionnaire regarding their graduate education.

**Data in AOTA records of currently registered therapists. 12.6% hold graduate degrees. (N = 1,200) occupational therapists currently holding graduate degrees.

- Jantzen et al., "Graduate Degrees Held by Occupational Therapists, March 1963," *AJOT*, XVIII, 4, 152-157, 1964.
- Johnson, J., "Delegate Assembly Address," *AJOT*, XXIX, 9, 519-532, 1975.
- Rusk, H., "A Major Problem Seen in Need for Occupational Therapists," *AJOT*, III, 5, 265, 1949.

Table II. Categorization of Research in Occupational Therapy

	No. of Articles	% of Total
I. Normal Human Developmental Processes	31	23
A. Sensory integrative processes (Perceptual, motor and cognitive aspects of development).	22	16
B. Socio-cultural Processes (Patterns of human activity, work-play phenomenon, interpersonal relationships)	7	6
II. Human Dysfunction—Evaluation and Treatment	83	61
A. Sensory Integrative Dysfunctions	51	37
B. Intra Personal Dysfunction	14	10
C. Socio Cultural Dysfunction	18	13
III. Education	20	14
IV. Health Care	3	2

Category I, Normal Human Developmental Processes, may be considered basic research while the other three categories identified are more clearly applied research.

Representative Titles of Research Articles Appearing in the *American Journal of Occupational Therapy* (AJOT) 1965-1976

- I. Normal Human Developmental Processes
 - A. *Sensory Integrative and Motor Processes*
 - Ayres, A.J., "Interrelationships Among Perceptual Motor Functions in Children," *AJOT*, XX, 2, 68, 1966.
 - Marsh, D.H., "Auditory Figure-Ground Ability in Children," *AJOT* XXVII, 5, 218-225, 1973.
 - Parmenter, C.L., "The Asymmetrical Tonic Neck Reflex in Normal First and Third Grade Children," *AJOT*, XXIX, 8, 463-468, 1975.
 - Coryell, J., "Children's Lateralizations of Images of the Self, Others and Objects," *AJOT*, XXIX, 9, 535-538, 1975.
 - B. *Socio-cultural Processes*
 - Black, M.M., "Adolescent Role Assessment," *AJOT*, XXX, 2, 73-79, 1976.
- II. Evaluation and Treatment of Human Dysfunction
 - A. *Sensory Integrative and Motor Dysfunction*
 - Neeman, R.L. and Phillips, H.E., "Perceptual Motor Attributes of Mental Retardates," *AJOT*, XXV, 5, 253, 1971.
 - Ayres, A.J., "Characteristics of Types of Sensory Integrative Dysfunction," *AJOT*, XXV, 7, 329, 1971.
 - Kawar, M., "The Effects of Sensorimotor Therapy on Dichotic Listening in Children with Learning Disabilities," *AJOT*, XXVII, 5, 226-231, 1973.
 - Walsh, L.E., "Measuring Ocular Motor Performance of Cerebral-Palsied Children," *AJOT*, XXVIII, 5, 265-271, 1974.
 - Grimm, R.A., "Hand Function and Tactile Perception in a Sample of Children with Myelomeningocele," *AJOT*, XXX, 4, 234-240, 1976.
 - Largent, P. and Waylett, J., "Follow-up Study on Upper Extremity Bracing of Children with Severe Athetosis," *AJOT*, XXIX, 6, 341-348, 1976.
 - B. *Interpersonal-Social Dysfunction*
 - Cowan, M.K., "Sex Role Typing in the Blind Child as Measured by Play Activity Choices," *AJOT*, XXVI, 2, 85-87, 1972.
 - Stein, F., "Community Rehabilitation of Disadvantaged Youth," *AJOT*, XXVI, 6, 277-283, 1972.
 - Mumford, M.S., "A Comparison of Interpersonal Skills in Verbal and Activity Groups," *AJOT*, XXVIII, 5, 281-283, 1974.
 - Warren, H.H., "Self Perception of Independence Among Urban Elderly," *AJOT*, XXVIII, 6, 329-336, 1974.
- III. Occupational Therapy Education
 - Anderson, H.E. and Jantzen, A.C., "A Prediction of Clinical Performance," *AJOT*, XIX, 2, 76, 1965.
 - Butler, H.F., "Student Role Stress," *AJOT*, XXVI, 8, 399-405, 1972.
 - Greenstein, L.R., "Changes in Beliefs Held by Occupational Therapy Students Before and After First Field Experience," *AJOT*, XXIX, 3, 137-142, 1975.
 - Muthard, Morris, Crocker and Slaymaker, "Fieldwork Experience Ratings and Certification Examination Scores as Predictors of Job Performance and Satisfaction in Occupational Therapy," *AJOT*, XXX, 3, 151-156, 1976.

Table III. Comparison of Content of Articles Published by Occupational Therapists in the *AJOT* over Three Decades

	Total # of AJOT Articles by OTR's	# of Research Articles	% of Total	# of Prof. Develop-ment Articles	% of Total	# of Evaluation & Treatment of Dysfunction Articles	% of Total
1950-1955	124	9	7	17	14	98	79
1960-1965	189	40	21	33	18	116	61
1970-1975	323	99	30	94	30	130	40

IV. THE BUDGETARY AND RESOURCE ALLOCATION CONSEQUENCES OF EACH OF THE THREE ALTERNATIVES

by Herbert S. Levine

In this report on budgetary implications, the approach will be to bring together and present only those data relevant to the three alternative courses of action under consideration by the Steering Committee. Our focus will be primarily at the margin, i.e. what are the *changes* in the allocation of University resources that would result as a consequence of each of the three alternatives. The present and past will be used only insofar as they shed light on each hypothesized future.

Having stated this principle, let us begin with an exception to it. In his letter of April 29, 1976, Vice-President Langfitt stated that SAMP "has maintained a balanced budget without the aid of discretionary subvention. . . ." This is, in a certain sense, an understatement. While the University's subvention policy is rather complex, it would appear (according to J.C. Strauss, "Subvention Analysis and Development of a Policy," October 16, 1975, pp. 3-5) that in 1974-75 (the data year of the Staff Report) the discretionary subvention given to SAMP was in fact negative (true also in the case of Medicine and Wharton). In 1975-76, however, the discretionary subvention for SAMP was raised almost to zero (actually: -\$2,000). Though these facts may be of general interest in discussion of SAMP and its future, for the limited purposes of this report, the level of the discretionary subvention will not be relevant, but the level of the total subvention will be.

1. *The "Ideal" SAMP.* This section of the report is based on John Hobstetter's letter of June 23, 1976, and Eugene Michels's "Comments upon. . . 'Ideal' SAMP," July 19, 1976. Hobstetter describes the general characteristics of an "ideal" SAMP ("combined undergraduate and graduate school. . . eventually via a professional doctorate; its faculty would contribute regularly to the scholarly literature of cognate fields. . .") and concludes that the school would resemble the Graduate School of Social Work and the College of Engineering and Applied Science. He then calculates the average expenditure and revenue per full-time student in these two schools, arriving at an estimated subvention need of \$3,000-\$4,500 per student in an "ideal" SAMP. Assuming a school size of 300-400 full-time students, approximately the size of Social Work, he calculates a total subvention to an "ideal" SAMP of roughly \$1,250,000.

"A subvention in the million-dollar range," he states, "could come from only two sources: a reallocation of general income from other schools toward the 'ideal' SAMP; an increase in general income possibly in the form of a special Commonwealth appropriation for the school." The former, he estimates, "could cost as many as 24 junior faculty positions, or the equivalent, elsewhere in the University." He continues: "Given the prevailing distribution pattern of general income, it is likely that the major loss of positions would have to be in FAS. To give some frame of

reference, five-year projections of the current revenue base of FAS suggest that the maximum number of junior positions it can afford is about 114."

It may be that the general impression of the opportunity cost involved in the "ideal" SAMP, conveyed by Hobstetter, is sufficiently accurate. But the more meaningful figure is the dollar amount rather than the "loss of positions in other schools" calculation. First, to be a stickler for the marginal principle, if the subvention to an "ideal" SAMP is \$1,250,000, then the current subvention (\$215,000 in the 1975-76 budget) should be subtracted from that to derive the change in subvention: \$1,035,000. However, since the \$1.25 million was admittedly such a rough estimate, this is not such a serious criticism (note also that the actual mid-point of Hobstetter's range \$0.9 million to \$1.8 million is \$1.35 million rather than \$1.25 million).

The steps from the dollar opportunity cost to the faculty positions opportunity cost, on the other hand, can be subject to more serious criticism. His method, a rather arbitrary reversal of the Zemsky-Porter procedure (see section 3, below), assumes a similarity of underlying conditions in the two situations which is probably unwarranted. Furthermore, it would appear that he should have used the net redistributed tuition (\$430,000) instead of the gross (\$671,000) compare with the reverse subvention flow of \$1,250,000 (\$1,035,000 net). If the net figures are used, the cost in terms of assistant professor equivalents comes to about 30. Yet it is clear that the calculation, however it might be made, would involve many assumptions about how FAS might respond to a million-dollar reduction in its subvention. (In fairness, it should be noted that Hobstetter stated that the creation of an "ideal" SAMP *could* cost as many as 24 junior faculty positions elsewhere in the University; he did not state it would.)

As for the possibility of a special Commonwealth appropriation for an "ideal" SAMP, Hobstetter concludes that it would not be very likely. He also does not think that there would be much of a chance of acquiring special federal funding for such a program.

Dean Michels in his "Comments" calculates what the additional subvention cost to the University of an "ideal" SAMP would be, under the assumption that an "ideal" SAMP would require the same rate of subvention to total revenue/expenditure as Engineering and Social Work. In 1974-75 this subvention rate was 20-22%; whereas Hobstetter's calculation assumes that an "ideal" SAMP would require a subvention rate of almost 40%. Using the 20-22% rate, Michels calculates that the added subvention cost of an "ideal" SAMP would be approximately \$400,000 rather than the \$1,000,000 estimated by Hobstetter.

Dean Michels also, by implication, challenges Hobstetter's conclusion that special Commonwealth or federal funding for an "ideal" SAMP would be unlikely.

2. *Present SAMP, with Some Modest Expansion into Master's Programs.* The discussions of the budgetary implications of continuing SAMP with the additional Master of Science program are quite complex, involving numerous alternative variants; they do not warrant detailed laying out in this report (see: Staff Report, pp. 93-104; SAMP Reply, May 11, 1976, Appendix 3; Letter, Michels to Levine, June 17, 1976 and its appended SAMP Working Draft, June 7, 1976). Perhaps a brief description of the range of estimates would suffice at this stage of the Steering Committee's work.

On the high side of the estimates of extra funds required to maintain an effective SAMP and to add a master's program are the figures given in the Staff Report, pp. 100, 104. These indicate that by 1977-78, on the order of \$225,000-\$243,000 (1974-75 dollars) additional yearly funds plus \$50,000-\$75,000 one-time expenditures will be required (add 1/3 or \$139,000 to \$179,000 and to \$217,000 [incorrectly printed as \$227,000 in the Staff Report, p. 100] to derive \$225,000 and \$243,000) after increased tuition income has been added to 1974-75 income.

The SAMP Working Draft, June 7, 1976, presents a way of meeting roughly comparable estimates of extra funding needs that involves the following:

a. A clinical fee of \$325 to be charged to O.T. and P.T. seniors and certificate students, and an increase of \$500 in certificate tuition.

b. The current (1976-77) budgeting of a clinical chemistry position in M.T., and several promotions to assistant professor in P.T. and O.T.

c. The funding of \$35,000 of immediate needs from the \$66,000 surplus in SAMP's "bank account."

d. The gradual funding of an additional \$55,000 as M.T. moves up from 20 to 40 undergraduate students and as the number of graduate students begins to grow subsequent to the opening of a graduate program.

e. An additional \$27,000 to be applied to salary and employee benefits for graduate student teaching fellows.

f. One-time costs to be covered by a NIAP grant which has been received, but as yet not announced.

The essence of the SAMP approach is the gradual phasing in of a graduate program, with costs covered from the school's own resources, in place of a (preferred) all-at-once start of the program, with additional subvention from the University.

Vice-President Langfitt, in his "Reasons for the Recommendation" (July 1, 1976), states, however, that his office does not agree with these financial projections, and that the master's and new certificate programs in the alternative SAMP proposal "are unacceptable to the administration of the University" (p.1).

3. *Phase SAMP Out.* The budgetary and resource allocation implications of this alternative have generated the most interest and the most heat. The principal source documents are: Zemsky-Porter, June 21, 1976, and Michels #1 (Comments on Zemsky-Porter), June 21, 1976, and Michels #2 (Comments on Levine "Phasing Out SAMP"), July 19, 1976.

In his original letter of April 29, 1976, Langfitt stated that even though SAMP receives no discretionary subvention, it should not be assumed that it is costless to the University. The issue is one of opportunity cost. In this particular case: if SAMP were to be phased out, what resources would be made available for use elsewhere in the University? It is this question which underlies this section of this report (hopefully, it is not the principal question which underlies the whole issue of the future of SAMP).

Before moving to the major items, one item should be dealt with immediately: the \$350,000-\$400,000 relocation costs. When the Veterinary School begins construction on its Small Animal Hospital, SAMP will have to move. SAMP has a relocation grant of \$720,000 from HEW that has just been extended for one more year. If the decision is taken to phase SAMP out, then this grant will undoubtedly be lost. The current estimates are that it would

cost at least \$350,000-\$400,000 to relocate SAMP. Associate Provost Hobstetter expressed the feeling, however, that if SAMP were phased out over a four-year period, ways could be found to house it without spending \$350,000-\$400,000.

The first item then is the Zemsky-Porter calculation of the resources that would be made available for use elsewhere in the University, what they might represent, and where they might go. Their calculations are presented on p. 4 of their report. Essentially they move the 301 undergraduate SAMP students (they consciously ignore the certificate students) to the other undergraduate schools (according to the existing proportional distribution of students among those schools); then they calculate the net redistribution of tuition income (University tuition less 10% tuition tax, and less unrestricted student aid) which would be produced. (It is necessary to calculate the *net* income because SAMP students now take many of their course units—more than one-third—outside of SAMP); they then redistribute and subtract relevant indirect costs currently charged to SAMP to derive the net increase in income by school. In order to give these figures further meaning, they then calculate how many additional assistant professors each school could employ with the extra income, if the funds were to be used solely to employ additional faculty.

At this point, Dean Michels argues that by ignoring the closing of SAMP's certificate program, Zemsky and Porter ignore the 10% tuition tax contributed by SAMP from certificate tuition to the general University subvention fund which would be lost were the school closed (Michels #1, p. 3—he calculates the 1975-76 tax at \$25,000). This seems a legitimate criticism (although the "intention" in 1976-77, is to return the extra 10% to SAMP in the form of a discretionary subvention). But interestingly neither Zemsky-Porter nor Michels take into account the \$215,000 subvention that SAMP was allocated in the 1975-76 budget (before an added salary subvention), some of which could be credited to other schools if SAMP were closed. Of this \$215,000 total subvention, which "represents" coverage of quasi-restricted and unrestricted student aid (see J.S. Strauss, *op cit* and his calculations for the 1975-76 budget), would be available to other schools. (Contrary to Dean Michels's statement [Michels #2, p. 1], the rest of the non-discretionary subvention is comprised of \$94,000 space charges, not a tuition tax return. The discretionary subvention is -\$2,000; SAMP did not get its tuition tax back.)

Dean Michels raises the issue of two SAMP-FAS faculty salary transfers (Michels #1, pp. 4-5, and Michels #2, pp. 3-7). The *direct* transfers consist of a \$16,000 payment by SAMP to FAS, and a \$40,000 payment by FAS to SAMP. There are numerous *indirect* financial aspects of these exchange relationships, but these are covered in the Zemsky-Porter calculations of the redistribution of the 301 SAMP students to other schools, and the consequent redistribution of net tuition income (on p. 3 of Michels #2, Dean Michels apparently forgets that student aid charges were removed from redistributed net tuition income by Zemsky and Porter). Therefore, it is proper to add the net *direct* flow of \$24,000 (\$40,000-\$16,000) to the funds that would be available for use by other schools.

If all these adjustments are made (including \$50,000 in lost tuition tax with the closing of the certificate program) columns 4 and 5 of Figure 4 (Zemsky-Porter, p. 4) would be roughly as follows:

	(4) Net Increase in Income	(5) Equivalent Asst. Prof. Positions (with associated increase in current expense)
FAS	\$297,000	15.3
Engineering	51,000	2.0
Nursing		
Wharton	16,000	0.6
Other	27,000	1.3
Total	\$391,000	19.2

From these totals, the cost of maintaining the four tenured SAMP faculty would have to be deducted to derive the net resources that would be available to the rest of the University. In 1975-76, the total salaries of the four tenured faculty plus employee benefits and current expenses came to \$116,040. This would reduce the above totals to \$275,000 and 13.5 equivalent junior faculty positions. However, it might be assumed that most, if not all, of the tenured faculty would fairly quickly accept positions elsewhere (the Steering Committee was told by some SAMP faculty that they regularly receive attractive job offers). Thus, the figures of \$391,000 and 19.2 might be closer to the mark. Dean Michels argues (Michels #1, p. 4) that the SAMP salaries should be increased by 5% per year at least through the year phase-out period. But clearly this is not legitimate. If salaries were to be increased by a certain percentage in the calculations, then the tuition credits and the assistant professor salaries should also be increased. If all of these rates of increase were equal, then they would cancel out, and thus have no effect on the calculation (indeed, if tuition were to continue to rise more rapidly than faculty salaries, then the relative importance of the \$116,000 would fall rather than rise). It is usually much better, in such calculations, to deal in constant dollars.

Michels (Michels #1, pp. 3-4; Michels #2, pp. 7-8) makes an argument about SAMP contributions to other schools that result from the smoothing of the time series of C.U.s taught. However, this should not be included in the calculation, because smoothing only delays or evens out the effects of changes (there might be a problem of interest charges on the bank balance, but this would be minor).

Two other important issues must be addressed: the impact of the reallocation of resources on the quality of instruction in the remaining schools and on the quality of students.

If 301 students are added to the student bodies in other schools (268 in FAS, and 33 in Engineering), this will further tax the advising services in FAS. First, since the indirect costs charged to SAMP were redistributed to other schools in the Zemsky-Porter calculations, University-wide advising services, covered by these

charges, would be available. Second, if the current FAS ratio of advisors to students (1:715) were just to be maintained, this would require the hiring of an additional part-time advisor, thus reducing the maximum total reallocation (no remaining SAMP tenured faculty) from somewhat over 19 equivalent junior faculty to somewhat under 19. But third, if 19 faculty were added to other schools (14-15 to FAS), some extra space and other amenities costs in addition to current expense might well be incurred. This would in effect reduce (slightly) the number of additional faculty who could be employed by the other schools.

Concerns could also be raised about the impact on quality of instruction resulting from larger class size (see e.g., Michels #1, p. 5). But the C.U. redistribution figures given in Zemsky-Porter, p. 5., (all 301 students distributed to FAS) plus reasonable assumptions about the desirable number of C.U.s to be taught by junior faculty during the course of a year, would indicate the 13-19 extra assistant professors could be distributed among the FAS departments so as to negate any increase in class size.

Finally, the quality of students. Zemsky and Porter (pp. 3-4) present data showing that if the currently rejected applicant pool for FAS and Engineering incoming freshmen were used to generate about 80 new matriculants each year for four years, they would have slightly better credentials than the incoming SAMP freshmen. However, Zemsky and Porter do not have similar data on transfer students, which make up a good part of the SAMP student body. A more acceptable conclusion might then be: it appears that an increase of 268 FAS students and 33 Engineering students, in place of 301 SAMP students, would not lead to a decrease in the academic quality of the undergraduate student body, as measured by P.I.s and G.P.A.s.

There still remain, however, other aspects of the impact of the closing of SAMP on the "quality" of the student body. These include such matters as: the change in the sex composition of the student body and its consequences, the level of student motivation, and others. These aspects will be discussed in other sections of the Steering Committee's report.

V. THE NATIONAL STATUS OF THE THREE SAMP PROGRAMS, AND THEIR ROLE IN PRESENT AND FUTURE HEALTH CARE DEVELOPMENTS IN GENERAL AND AT THE UNIVERSITY

by Barbara J. Lowery and W. Allyn Rickett

1. *National Status:* There is no established system for ranking allied medical programs nationwide which could assist the Board in determining the national status of SAMP or its three departments of physical therapy, occupational therapy, and medical technology. Therefore, until further evidence is received in reply to letters of inquiry addressed to leaders of the field at other institutions, we have accepted for purposes of our deliberations the statement on p. 42 of the Staff Report that there are "many indications that SAMP is regarded as a leading school in the allied health community."

During the years 1973-75 graduates from the department of physical therapy contributed ten percent of the articles published in the field's leading journal: *Physical Therapy* (formerly the *Journal of the American Physical Therapy Association*), and during the period January 1970 through October 1975 Penn faculty and graduates were the leading contributors to it (Staff Report, p. 47). Furthermore, a 1974 survey showed that Penn graduates were serving as faculty in about 20 percent of the nation's physical

therapy programs (Staff Report, p. 47).

Penn graduates in occupational therapy ranked first in the number of publications in the *American Journal of Occupational Therapy* during the years 1970-75, accounting for ten percent of the total (Staff Report, p. 46). Penn graduates are also represented on the faculties of over 30 percent of the 50 occupational therapy programs now in existence. Five of these graduates and three former faculty members, who did graduate work at Penn, are now serving as program chairpersons (Staff Report, p. 47).

A survey of medical technology graduates conducted in 1973 indicated that 14 percent of the respondents had taken part in professional teaching, 35 percent had occupied clinical leadership positions, and 22 percent had published. Some 15 percent of the respondents either held or were pursuing advanced degrees (Staff Report, p. 46).

It is also worth noting that the faculty of SAMP has played a leading role in the development of both national and international

professional associations in all three fields covered by the school.

2. Role in Present and Future Health Care Developments in General: Although some physicians (generally those primarily involved in the more technical aspects of medicine) tended to discount the importance of physical and occupational therapists, those concerned with the broader aspects of health care all felt that not only were these fields important today, but they would become even more important in the future. An analogy was made to nursing, which in the past ten or fifteen years has moved rapidly forward from being an essentially routine service profession to a position of high-level responsibility in overall health care delivery with its own special area of knowledge. In the development of their professions, physical and occupational therapy appear to be a few years behind nursing but moving ahead rapidly (Hertz and Stemmler testimony). Though both the physical and occupational therapists usually treat patients on referral from a physician, they are beginning to have greater independence in prescribing, evaluating, and modifying such treatment. This is especially true of physical therapists. (See Worthingham study cited in Michels to Rickett, June 15, 1976.) According to the recently revised Physical Therapy Practice Act of the State of Pennsylvania, physical therapists now have their own independent Board of Examiners and may treat patients from a broader range of referral sources than in the past.

Beginnings are also being made in this direction by occupational therapists. The Bylaws of the American Occupational Therapy Association show the following changes:

1948-1964—The members of the American Occupational Therapy Association shall work only under medical supervision or direction.

1965—The members of the Association shall treat patients only by medical referral.

... 1974—Registered members may accept referrals from qualified physicians and from others seeking occupational therapy services. They shall collaborate with qualified professionals where collaboration is indicated. (Ellis letter to Amado, June 16, 1976.)

Although these groups are moving toward a greater level of independence, collaborative practice with the other disciplines is still a goal. This seems quite important since many witnesses feel the ideal model for health care delivery would seem to be a team approach with physicians, dentists, nurses, therapists, and technologists working closely together.

The importance of these professions is even further enhanced by the increasing attention being given to primary and tertiary care (Hertz and Brody testimony).

These groups seem even more important to tertiary care. Care and rehabilitation for the rapidly expanding aging population demands high-level functioning from both physical and occupational therapists. The increasing population of chronically diseased and disabled apparently will not have their needs met by physicians who are traditionally prepared to intervene in episodes of acute illness. The need now is for more and better prepared professionals who can carry out tertiary care activities for stroke victims, victims of heart disease and other problems of aging, and for children with learning disabilities, cerebral dysfunction and other crippling diseases (Hertz and Brody testimony).

As the importance of physical and occupational therapy and medical technology have increased so has the range of knowledge and degree of specialization required in these professions. In physical and occupational therapy, there has been a rapid growth in master's degree programs, and it is worth noting that Penn was the only institution in the top five physical therapy programs, measured in terms of graduate authorship, which does not have a basic or advanced master's degree program (Staff Report, p. 47). In the field of medical technology, the state has established specific educational and degree requirements for different positions of responsibility beginning with the two-year certificate medical

technician, through the medical technologist with bachelor's degree, to the advanced degree holder who may function as a laboratory supervisor. Advanced degrees in medical technology usually involve an M.A. or Ph.D. in such fields as microbiology (SAMP) student testimony).

The United States Department of Labor, Bureau of Labor Statistics *Occupational Outlook Handbook* for 1976-1977 projects average growths in physical therapy and occupational therapy with the increasing number of graduates roughly in balance with new openings. Favorable employment through mid-1980 is projected. Medical technology job opportunities are expected to expand faster than average through the mid-1980s. Further, according to the Hobstetter report of June 23, 1976, in the analysis of manpower training priorities of the Pennsylvania Department of Education, Office of Higher Education, Bureau of Planning, *Allied Medical Fields* was identified as a high priority area. The Staff Report (p. 50) indicates that there are far more openings than personnel available. The students during interviews indicated that not only did they have no trouble finding positions of graduation, but that starting salaries were high, in the range of \$12,000.

While medical technology tends to provide personnel for the local market, the market for physical and occupational therapy graduates is national. Furthermore, these two programs are particularly important in providing personnel for the Commonwealth of Pennsylvania. Three schools in the state have physical therapy programs: Penn, Temple, and the University of Pittsburgh. Of a total capacity in these schools of 201 students, Penn provides 115, or more than half. In occupational therapy there are also just three schools: Penn, Temple, and Elizabethtown College. Here again Penn provides more than half of the students, 70 out of a total of 131 (Staff Report, p. 57).

It would also appear that a high percentage of SAMP graduates pursue their careers in the Commonwealth after graduation. According to a survey made in the fall of 1975, the home residence of 404 respondents (45%) was Pennsylvania at the time they were students. Of the 404, 291 (72%) were still resident in Pennsylvania at the time of the survey (SAMP Reply, May 11, 1976).

3. Role at the University of Pennsylvania: It is generally agreed that in order for SAMP to maintain a leading position in the allied health field, it must develop a master's program of an advanced type which will permit students to specialize and develop research potential. Furthermore, SAMP has worked out arrangements with James Smow, Chairman of Otorhinolaryngology and Human Communications, to develop a graduate program in audiology and speech pathology beginning with an M.A. and ultimately leading to a Ph.D. (Langfitt testimony, May 21). This suggestion has been met with general enthusiasm. However, the development of a general graduate program for SAMP has been declared by Dr. Langfitt to be too costly in terms of the University's developmental priorities.

Clearly the question of funding is crucial to the future of SAMP. Professor Roma Brown (Letter to Amado, July 21) has pointed out that "SAMP is the *only* School of Allied Health in the Commonwealth that *does not* have a specifically targeted Commonwealth appropriation." Dean Michels (Testimony, July 21) joined Professor Brown in expressing the belief that such aid could be obtained if the University were to make an effort to procure it. On the other hand, Dr. Langfitt (Testimony, July 21) maintained that the University's appropriation for the coming year has already been increased some 14 percent because of special grants to the Schools of Veterinary and Dental Medicine. This is contrasted with about 4 percent for most state-related schools. Therefore he felt it highly unlikely that Harrisburg would be sympathetic to a request for further funding for SAMP or even that it would be politic to ask.

Dean Michels and Professor Brown also felt that there was a good chance for future federal funding for SAMP as a result of such legislation as the recent bill to amend the Public Health Service Act

(S. 3229) which was passed by the Senate and has been waiting action in the House. This bill contains provisions for training grants for allied health personnel.

According to Dean Stemmler (Testimony, June 9) some outside funding might be obtained; whether such funding would be sufficient or of long-term nature is a question, but the major reason for not pursuing such funding has been the low priority of SAMP in relation to other needs in the medical area. Again the reasons for the low priority assigned to SAMP hang on the question of SAMP's centrality to the rest of the University's medical program.

Although Dr. Langfitt in an article in the Spring 1976 issue of *Health Affairs* dealing with the "Commission on Education for Primary Health Care" clearly considers SAMP as an integral part of the primary health care program at Penn, in his interview with the Board (May 21, 1976) he stated that SAMP was not central to the mission of the University nor to the health area. He went on to explain that in the primary care program, for example, Dr. Alfred P. Fishman, chairman of the administration the development of ambulatory care settings, outside the Hospitals, wherein undergraduate, professional, and graduate students could be educated as teams. The three essential components for ambulatory settings are Medicine, Dental Medicine, and Nursing. Social Work, M.B.A. health students, as well as SAMP students could also be involved. But SAMP students would not be essential. When questioned about the need for medical technologists and physical and occupational therapists, Dr. Langfitt replied that they were

needed, but that there are now about 350 items falling under allied medical fields, and we are not trying to develop programs for all of them.

Another contributing factor toward the low priority of SAMP on the medical area is its isolation both physically and intellectually from the medical school. The SAMP faculty has expressed itself clearly in not wanting to be incorporated into the medical school, insisting that government funding is contingent on its maintaining a separate existence (Staff Report, pp. 49-50)*. Intellectually the split is between an essentially teaching faculty at SAMP and a research faculty in the medical school. The degree to which research plays a role in the intellectual life of these two communities is an important factor in shaping their attitudes toward each other. It has also become clear that the small, somewhat isolated SAMP faculty is on the defensive in feeling that its strengths are neither understood nor appreciated. Given the present vision of the SAMP faculty and its limited research orientation (for whatever reasons), it is difficult to see any but the most preliminary kind of leadership emerging from within the school itself capable of bringing about a high-level graduate program. It is also difficult to see that leadership coming from the Medical School given the low priority it now places on the SAMP program.

Reference:

Finn, G., "The Occupational Therapist in Prevention Programs," *The Eleanor Clark Slagle Lectures 1955-1972*. AOTA, 1973, 209-228.

VI. THE RELATION OF SAMP TO OTHER PARTS OF THE UNIVERSITY (OTHER SCHOOLS. . UNDERGRADUATE EDUCATION. . WOMEN)

A. SAMP INTERACTION WITH OTHER SCHOOLS

by Robert F. Lucid

Although the achievement of excellence within its own programs is no doubt the most significant contribution any school can make to the major university community, it is nevertheless true that part of the value of a school can be measured by the degree to which it does contribute to schools and programs which are adjacent to it. The SAMP staff has drawn up a descriptive listing of interdisciplinary and collaborative activities in which the SAMP faculty fill substantive roles, and the listing is attached to this report as Appendix VI A (opposite). What the appendix reveals, under its headings of *Teaching*, *Research*, and *Service*, is that the faculty makes its major contribution outside the school through teaching; that its next most influential activity is the providing of various kinds of service; and that its manifestly weakest contribution is in the area of research. Some of the teaching listed could be continued, it seems clear, even after a phase-out of SAMP, but at the heart of the school's teaching contribution is the Institute on Interdisciplinary Health Care Center Practice. The Institute draws upon the Schools of Medicine, Nursing, and Social Work but SAMP clearly occupies the center of the enterprise, and indeed the Institute

is currently supported by a grant to SAMP from HEW. The School of Dentistry and the Leonard Davis Institute have recently accepted invitations to join the planning committee. The Institutes have been offered for four years, and, as the appendix makes clear, truly provide a vital element to the curricular health care resources in the community. In the area of service, while there is much to remark, perhaps the most striking detail is that SAMP graduates constitute over 50 percent of the medical technologists and occupational and physical therapists in University-affiliated health care facilities (Pepper Lab consistently employs the top half of each graduating class in medical technology). Without SAMP these positions would need to be filled through national competition, and nationally the demand for highly qualified people in these fields continues to exceed the supply. When one turns, however, to the area of collaborative or interdisciplinary research in connection with SAMP, it is to discover that there is comparatively little activity ongoing. It appears likely that a SAMP phase-out would have little effect upon research activity in other schools in the University.

APPENDIX VI A

Interschool Teaching, Research and Service Activities of the Faculty of the School of Allied Medical Professions

June 18, 1976

The School of Allied Medical Professions has a total of seventeen full time (A-2) faculty: four of the faculty carry major administrative responsibilities, three as department chairpersons, one as acting dean. The Department of Medical Technology has four faculty, Occupational Therapy five, and Physical Therapy eight. The activities listed below represent interschool commitments which would be lost or impaired if SAMP were not present within the University.

Teaching:

This listing includes courses and major units of courses taught by SAMP faculty.

Faculty of Arts and Sciences

Biology 203—Principles of Microbiology. Required course for nursing students; large number of pre-medical students take course as elective. *Charles Benson.*

Biology 215—This course in Mammalian Physiology is central to the interests of many pre-medical students as well as to biology majors. *Harry Kissileff.*

Dual Degree Programs—Two "formalized" dual degree programs have been implemented: Biology and Medical Technology and Biology and Physical Therapy. A third program is being developed—Bioengineering and Medical Technology.

Students may elect one of these established dual degree options or may develop an individualized option in Sociology, Psychology, Urban Studies, etc.

Graduate School of Education

Supervising students in independent study of child development. *Joanne Bauman and Nancy Ellis.*

Health Affairs Schools

School of Medicine

Department of Pathology—conducting seminars in microbiology for graduate students. *Charles Benson.*

Supervising graduate student research in microbiology. *Charles Benson.*

Department of Anatomy—teaching gross anatomy laboratory. *Susan Herdman, Carol Otis, Barbara Bourbon.*

Teaching neurobiology course for medical and dental students. *Susan Herdman.*

Department of Psychiatry—teaching course in Behavioral Medicine, a required course for medical students. *Elsa Ramsden.*

Collaborating with George Ruff in development of a Medical Psychiatry Institute for faculty to teach behavioral sciences in medical school. *Elsa Ramsden.*

School of Nursing

Teaching of a unit in interpersonal communications to nursing students. *Elsa Ramsden.*

School of Veterinary Medicine

Teaching units in parasitology and microbiology and immunology to veterinary students. *Ruth Leventhal.*

School of Allied Medical Professions

OT 230-Human Development—this course is the only undergraduate level course on campus which deals with the total life span; it is open to undergraduate students in all schools of the University. *Nancy Ellis.*

AMP 123 (also listed in FAS as Mil. Sci. 123 and in Nursing as Nursing 123) This course, titled Introduction to the Health Professions, was initiated by Military Sciences. Currently SAMP faculty assume the major responsibility for course structure and content. *Laurita Hack, Johanna Barbati, Roma Brown.*

Institute on Interdisciplinary Health Care Practice

The idea for and the implementation of these interdisciplinary courses came from the School of Allied Medical Professions. Four schools constitute the

planning committee for the Institutes' activities—The School of Allied Medical Professions, The School of Medicine, The School of Nursing, and The School of Social Work. The School of Dentistry and the Leonard Davis Institute have been invited to join the planning committee. They have accepted. Currently the Institute is supported by a grant to the School of Allied Medical Professions from the U.S. Department of H.E.W.

In 1976, ten week-long courses and two full-semester courses were offered. 211 students from seven health care disciplines in five schools participated. Students were from Dentistry, Medicine, Medical Technology, Nursing, Occupational Therapy, and Physical Therapy. Additionally, students from FAS with specific health-related interests (i.e. clinical psychology, medical anthropology) participated, as did students in Dietetics (Drexel University).

During the four years these institutes have been offered, 13 SAMP faculty have taught the allied health aspects of these courses.

Medical Library

Collaborating with Jerry Rausch on developing computerized, competency based courses for medical students. *Elsa Ramsden.*

Hospital of the University of Pennsylvania

Teaching microbiology to respiratory therapy students. *Marianne McGucken.*

Teaching microbiology to nursing students. *Marianne McGucken.*

Wharton Graduate Division

BA 841—Teaching unit of the Structure and Organization of the Health Care Enterprise. *Laurita Hack.*

Research Conducted by SAMP Faculty in Other Schools of the University

Health Affairs Schools

School of Medicine

Microbiology research—*Charles Benson*, in collaboration with Joseph Gots of the Medical School faculty.

Infectious Disease research—*Marianne McGuckin*. Supervising graduate students' research projects.

Epidemiology research in collaboration with faculty in the Department of Community Medicine. *Marianne McGuckin.*

Neurophysiology research—recovery of spinal cord function. *Susan Herdman.*

School of Veterinary Medicine

Parasitology research—coinvestigator and coauthor of text (in process). *Ruth Leventhal.*

Graduate School of Education

Research on tools to evaluate the effectiveness of academic administrators. *Laurita Hack.*

School of Social Work

Family Maintenance Organization. Experimental model for providing support services to families in economically depressed settings. The project has also developed a model for interdisciplinary fieldwork education. Students from Nursing, Education, Allied Health, and Social Work staff the FMO. *Gladys Masagatani.*

Service and Development Activities:

Health Affairs

Commission for Education on Primary Care

SAMP's representative on the Commission originated two of the recommendations put forward by the Commission to the University. *Eugene Michels.*

Position Paper on Undergraduate Education in Health Sciences, 1973

Recommendation that the University develop a health science area of concentration. *Sidney Rodenberg.*

Rehabilitation Commission

The Commission is concerned with all aspects of rehabilitation services from the Piersol inpatient unit to accessibility of campus facilities for handicapped faculty and students. SAMP faculty represent the allied health professions on the committee. SAMP students took major responsibility for a survey of the accessibility of campus buildings and for

writing the Handbook for Handicapped Students. *Jane Carlin, Eugene Michels, Nancy Ellis (Chairperson, 1976).*

School of Medicine

Clinical consultant in parasitology to Pepper Labs. *Ruth Leventhal.*
Consultant to Penn Urb Health Service Center. *Laurita Hack.*
Developing videotape on The Dying Patient with *Edward Viner*, School of Medicine. *Elsa Ramsden.*

Interdisciplinary Projects

Demonstration Project—Developed proposal for demonstration project in the use of allied health in primary care in HMO setting. *Laurita Hack, Johanna Barhati, Eugene Michels.*

Grant Proposals prepared for Penn Urb

Administrative skills for the Hospital middle Manager
Economics of Clinical Education
Quality Assessment and Medical Audit Procedures. *Laurita Hack.*

University Hospitals

SAMP graduates constitute over 50 percent of the medical technologists, and occupational and physical therapists in University-affiliated health care facilities (CHOP, HUP, Presbyterian & VA). Pepper Lab, for

example, consistently employs the top half of each graduating class in medical technology.

Without the school, these facilities would have to compete nationally for the technologists and therapists who are in short supply. The demand for highly qualified professionals continues to exceed supply in these three fields.

Child Guidance Center

Demonstration Project in evaluation and treatment of disturbed children. The Child Guidance Center has no occupational therapy services. The demonstration project provides these services to patients and also provides in-service education for the medical staff. *Gladys Masagatani.*

School of Social Work

Dissertation Committee Member—Interdisciplinary Health Care Education. *Nancy Ellis.*

Faculty of Arts and Sciences

Coordination of the Health and Society program in the College of Thematic Studies, 1975. Consulting with Dr. Ralph Maulitz as this program was moved under the aegis of the History and Sociology of Science. *Eugene Michels.*

B. THE UNDERGRADUATE EDUCATIONAL EXPERIENCE AT SAMP

by Cyndy Chanenson

The opportunities available at the University of Pennsylvania are limited only by the extent to which they are pursued. With the many diverse resources and facilities, it is advantageous to draw upon these resources in an effort to maximize one's educational experience. In keeping with this philosophy, students of SAMP obtain more than merely liberal arts and professional education. The combination of their interdisciplinary academic experience with their residential living environment and participation in University affairs and activities leads to the conclusion that the total learning experience of SAMP students is at least equivalent, if not superior, to that of students in other schools of the University. With the beginning of its Program for the Eighties, the University of Pennsylvania stresses the concept of One University—encouraging academic excellence through interdisciplinary study. At this time in particular, the undergraduate academic experience of the School of Allied Medical Professions can be viewed as a model for the University to achieve this goal.

The Reallocation Review Board has heard that SAMP undergraduates who currently live among other undergraduates in University housing arrangements provide an important element of diversity among the student body. Their curriculum, which includes an unusually high number of contact hours in classes and clinical experience, contrasts with the schedule of most of the liberal arts undergraduates with whom they live. They are unquestionably highly motivated students, and their goal-orientation, remarked upon by the Vice-Provost for Undergraduate Studies and University Life, adds a dimension to the undergraduate experience of non-SAMP students. Able to command salaries up to approximately \$12,000 upon graduation at the baccalaureate level, these students command a certain amount of awe and respect.

From the figures that we have seen, and from the comments of people who have testified, it is apparent that utilizing the current undergraduate admissions applicant pool to fill three hundred SAMP vacancies would mean selection from a roughly equal number of men and women with PIs of approximately the same level as the average current SAMP student. Actually, since there are already more than 1½ times as many men in the undergraduate body as there are women, it is reasonable to suppose that the available applicant pool will actually consist of a male/female ratio

of approximately the same dimensions, or appreciably more men than women. In summary, if the SAMP places were to be filled from the present applicant pool, the new matriculants might indeed have a similar PI, but they would have a far lower proportion of women, they would be far less goal-oriented than the current SAMP population, and they would therefore add appreciably less diversity to the current undergraduate student body than does the current SAMP group.

During their experiences at the University, the students of SAMP build upon the foundation of a liberal arts education and obtain a useful, professional education. The table below illustrates the number of liberal arts/elective courses required of undergraduates within each school.¹

School	Total C.U. Required	Liberal Arts/ Elective C.U.
FAS	32-36	20
Engineering	40	13-22
Nursing	36	19
Wharton	36	22
SAMP (by dept.)		
PT	36	20
OT	35	16
MT	36	18

The number of liberal arts courses which may be taken by SAMP students in the physical therapy department is equal to the number of electives a student in FAS is required to take to supplement his major requirements. The number of liberal arts/elective courses required for occupational therapy and medical technology students falls only slightly below this standard.

The relationship of students to faculty within SAMP encourages frequent and close interaction. Especially in comparison with FAS, it appears that SAMP offers better service to its students. One recent graduate reflects her opinions concerning this in a letter addressed to the Reallocation Review Board:

I have often considered myself far more superior to my colleagues in FAS in relation to my total academic experience at the University. If I had not had the opportunity of attending SAMP, I would have

been one of the thousands of nameless graduates floundering for direction in our highly competitive society. My future professional role involved the mastery of a specific body of cognitive knowledge which includes facts as well as theory. My educational experience at Penn had been unique in its expansive scope of the University's resources, the promotion of intellectual and professional growth, diversity and challenge. FAS had provided me with the basics in the behavioral sciences and the opportunity to expand on personal interests. However, the courses and professors appeared to channel eager students toward a sense of conformity, disillusionment, and frustration, i.e. as a result of over-crowded lectures (Psych 1-1000 + students, fall '72), impersonal instructors, lack of creative and intellectual challenges, etc.

It was in the courses provided at SAMP that one could experience the real challenge and an authentic application of academic knowledge, i.e. learning to conceptualize abstractions into action. The student is able to develop a sense of responsibility to himself as well as to others, which is generally not the case of the other schools of the University. Unlike other programs, Penn's School of Allied Medical Professions does not split the curriculum into two basic divisions—strictly liberal arts for the first two years, and the concentration of professional courses for junior and senior year semesters. The curriculum is a well integrated four-year program of academic and clinical aspects which encourages the most natural progression to independent responsibility and professional growth. SAMP also calls upon eminent faculty of the University of Pennsylvania School of Medicine and Division of Graduate Medicine to augment its teaching staff. As one can see, SAMP provides a learning and training process with a broad intellectual framework.²

Key elements of SAMP's success are its size and faculty/student relationship. The faculty/student ratio is actually quite low, especially in comparison to the other schools of the University. (See Section I [Amado], Table 8, p. 3.) Yet, because the SAMP faculty carries a heavy teaching load and puts its total teaching effort into the undergraduate program, and because the school is fairly small, there is much interaction between students and faculty. This produces a friendly, trusting environment which is highly conducive to mutual respect and learning. It is easy to see why SAMP students regard their professors so highly, as they have an excellent opportunity to know them well. Describing the importance of this, one student writes:

One of SAMP's most valuable characteristics is that it serves as a very personal and caring environment for its students. The student feels welcomed and known by the (past) Dean, Chairman of his Department, Faculty, and even the secretaries. Thus, one has the opportunity to be part of a small school and also to participate in the total institution, academically as well as in all the social activities which are offered.³

In SAMP, the function of academic advising is performed by the faculty. These advisors are well informed, and able to suggest courses which are most appropriate for the particular interests of the student, and, more important, those courses which are most beneficial for that specific student. Faculty who advise students, as well as teach, have a greater understanding of the alternatives available and are better equipped to guide the students. A centralized advising system in a larger school, such as FAS, makes it exceedingly difficult to advise an individual student knowledgeably.

In terms of the curriculum of the school, the Review Board has no reason to disagree with SAMP's claim that it provides a strong undergraduate program. There is much to be said for its four-year academic program as opposed to the "two-plus-two" alternative. Although both a four-year program and "two-plus-two" program generate essentially the same diploma—a professional degree with a liberal arts background—the continuity provided by a four-year degree, both in terms of academic and social aspects, is far more beneficial to the student. By entering a four-year program, the student has the opportunity to distribute his or her difficult course requirements throughout the four years, as opposed to postponing all the profession-oriented coursework until the final two years. It

appears likely that the University will see an increased demand for this type of education. In affording its students more time to study their areas of concentration, SAMP contributes greatly to the "humanization" of professional education. In return, the students of SAMP are studious, yet not cutthroat. Their study habits are a good influence on other students within the University, particularly those students who share residence halls with SAMP students.

The classroom building of SAMP is separated from the remainder of the campus, and much displeasure has been expressed of this. The students believe that they are "out of sight and out of mind" in the eyes of the University community, and the administration in particular. They fight, successfully, for their privileges as members of the University community.

There is great value to SAMP students in having their school located within the University of Pennsylvania. Obviously, it is to the advantage of the students to have the opportunity to take courses in other schools of the University. The students also have use of the anatomy laboratories and laboratories in HUP, and they attend psych demonstrations in both HUP and PGH. Professors from many departments are brought into SAMP classes where they give lectures and participate in discussions.

To supplement classroom education, the location of the school in an urban setting provides valuable fieldwork opportunities which help acquaint and prepare students for their professions. For example, during one student's first two years in SAMP, she observed occupational therapy at Philadelphia General Hospital, worked in a nursing home, observed children at a day-care center, and tutored adolescents in a West Philadelphia school. In short, she was able to get a "taste" of her future profession—an opportunity few undergraduates have.⁴

These strengths of SAMP, in addition to its national reputation, explain why the school maintains a considerable number of applicants. Those who apply are attracted by the school's four-year program, its interdisciplinary, high-quality curriculum, and affiliation with the University of Pennsylvania; but they certainly are not induced by the lack of enthusiasm from the Admissions Office. A former member of the University Council Committee on Undergraduate Admissions and Financial Aid wrote:

... SAMP's strength has been realized without any kind of adequate support, in terms of recruitment dollars, financial aid, and "spreading the word" about the school, for the Admissions Office or the administration in general. This is particularly true for the transfer segment of SAMP's population, which is clearly a gold mine we have yet to tap.⁵

The applicants who persevere, and who are accepted to SAMP, are rewarded with a professional and liberal arts education. Upon completion of the undergraduate degree, they are among the few "employable" graduates. They are able to *choose* whether or not to attend graduate school, unlike their peers with liberal arts degrees who are practically forced to pursue graduate education in order to obtain challenging, high-salaried jobs. Even more important than this, is the attitude of the SAMP alumni, for they view their degree as more than the completion of four years in the world of academia.

Upon graduation from SAMP, one has more than a degree or a 'job.' Involvement with Allied Health is a commitment, a dedication, and a loyalty to the improvement of the human condition. . . and *that* is a responsibility that belongs to us all.⁶

Footnotes

1. Data taken from the *University of Pennsylvania Bulletin: Undergraduate Courses of Study*.
2. Letter from Dawn Sosangelis addressed to Cyndy Chanenson, May 26, 1976.
3. Letter from Linda Apter addressed to Ralph D. Amado, May 22, 1976.
4. *Ibid.*
5. Letter from David Levine addressed to Ralph D. Amado, May 25, 1976.
6. Letter from Jane Eisen addressed to Ralph D. Amado, May 18, 1976.

C. SAMP AND THE UNIVERSITY: WOMEN

by Virginia W. Briscoe

The Steering Committee of the University Council, 1975-76, acting as a reallocation review board, has considered a wide range of issues raised by the administration's proposed phasing out of SAMP. One such issue is the decrease in the number of women students, faculty, and staff at the University and a corresponding decrease in the opportunities for women at the University which such a phase-out might entail. This report examines the ramifications of such a decrease.

The Figures

Faculty: According to fall, 1975, data, SAMP had sixteen faculty members who were in either fully-affiliated tenured or tenure-accruing ranks, or 0.9% of the entire University faculty (N = 1735). Thirteen of these were women. These thirteen represented 5.7 percent of all women in those ranks at the University (N = 227). For a breakdown by rank and by school, see Tables I and II.

When SAMP women faculty members were included in the figures, women faculty represented 13.1 percent of the total University faculty on the tenure track; when they were subtracted (as were also the three men) in order to see what the figures would look like in a SAMP-less University, the proportion of women faculty at the University dropped to 12.4 percent of the total. The data on department chairmen is especially striking. According to a report prepared for presentation to the Trustees in January, 1975, which is included in this report as Table III, out of a total of 97 department chairmen throughout the University (not including the School of Nursing since its titles differ) five chairmen were women, and of those five, three were in SAMP. The numbers of women in this position remain the same today.

Staff: Although there are eight women currently employed at the A-3 level in SAMP (of whom two are minority employees), there would be no significant effect on affirmative action figures of the University for this category, since nearly all of the A-3 personnel at the University are women.

However, at the A-1 level there are five people—all women—currently employed at SAMP and the Office of Equal Opportunity suggested that the figures for A-1 PA-4 represented a significant area for examination if SAMP were indeed to be phased out and the positions terminated. Within the A-1 (or Type 1) employment category there are ten grades, the lowest being one and the highest ten. Throughout the University, as the grade increases, the number of women decreases.

As of May 26, 1976 there were a total of 1231 A-1 personnel at the University. The grade distribution relevant to the SAMP case is as follows:

Type 1 (A-1) Personnel

	Men	Women	SAMP
PA-1	47	157	1
PA-2	70	158	1
PA-4	130	92	3

Students: The following figures were supplied by Vice-Provost McFate's office:

Undergraduate Students, Fall, 1975

	Men	Women
University Totals	4754	2808
FAS	2801	1855
SAMP	34	247

As of July 7, 1976 the SAMP Registrar provided the following profile on the current student body:

	Men	Women
Undergraduates	39	262
Certificate Students	21	62

In suggesting the closing of SAMP the administration of the University has indicated that approximately 300 additional students will be drawn from the existing applicant pool. If the current undergraduate proportions are maintained, this would mean 180 men and 120 women would replace SAMP's 60 men and 324 women. These figures indicate a net loss of 200 women and a net gain of 120 men.

Discussion

1. **Affirmative Action.** There are moral, legal, and financial aspects to affirmative action plans at the University of Pennsylvania. The goals of a liberal arts education—to open minds, to create respect for diversity, to train and discipline thinking—suggest that equal opportunity should exist for men and women alike within the community of scholars. Although the goal of equal opportunity for women within the University appears from the figures to be more observed in the breach than in practice, it nonetheless remains a powerful norm. The University honors its commitment to educating women and to implementing its affirmative action plans on the grounds that it is the "right and proper" thing to do; that which is morally and intellectually right and proper is also, in this case, legally "right and proper."

If Penn should fail to meet its affirmative action goals it faces a potential loss of millions of dollars in federal funds. In addition, the financial effects of noncompliance might well extend to alumni relations and relations with private donors, especially corporations. A strong, successful, well-publicized affirmative action program at the University might well stimulate alumnae giving, an area which we have been told lags far behind alumni giving in percentage of participation and in dollar amount. In respect to corporate giving, there are indications that private industry, also attempting to meet affirmative action guidelines, is beginning to support those academic institutions which have committed themselves to the training of women.

The demise of SAMP would certainly create a number of problems in respect to affirmative action figures at the University. However, it has been suggested that, from the affirmative action viewpoint, one might envisage replacing the woman-rich faculty of SAMP with faculty women of prominence in their fields throughout the University. If the administration felt itself compelled to increase its efforts to bring outstanding women to the University because it had closed SAMP, the visibility and the quality, if not also the quantity, of the women's presence at the University might well be strengthened. While the Review Board recognized the merits of this argument from the point of view of strengthening the faculty, it also realizes that the demise of SAMP closes options available to women students seeking both a professional and humanistic liberal arts education at the University of Pennsylvania.

2. **Opportunities for Women at Penn.** The section of this report entitled "The Undergraduate Educational Experience at SAMP"

discusses the advantages of a relatively small unit within the larger University setting. The size factor and the close faculty/student interaction at the school make the matter of role models of some importance. A close look at the structure of the SAMP faculty reflects the positive side of the changing academic scene for women: whereas the older faculty are justifiably proud of their teaching accomplishments and of the high quality of their professional skills, they have encouraged the younger faculty to develop their research potential: the younger members of the faculty, therefore, actively pursue their own doctorates and teach seven out of the nine 500-level advanced undergraduate courses offered in SAMP. The *esprit de corps* of the faculty is reflected in the high sense of purpose and motivation exhibited by the students. Clearly SAMP students feel supported and encouraged in their work. A dedicated faculty, made up almost exclusively of conscientious professionals who happen also to be women, provides role models of a high caliber for both male and female students.

In addition to the undergraduate program within SAMP there is also the certificate program, of which 74.7 percent of the current group is female (N = 62). Figures on the fall, 1976, entering certificate class also reveal that in this program SAMP provides an attractive continuing education opportunity for women. Of the 45 women who will enter the program in the fall, 15.5 percent (N = 7) are 30 or older, and 33.3 percent (N = 15) are over 21 years old. Both SAMP and Nursing are fields which allow for and encourage entry at different ages; they are therefore ideal for implementing continuing education options at Penn, especially for women who seek a direct route to, and excellent preparation in, a professional area. The Steering Committee felt that it was worth noting that the SAMP continuing education applicant is particularly attractive at a time when all universities are facing the threat of shrinking numbers of applicants in the able sixteen-to twenty-two-year-old college-going population.

Finally, the SAMP undergraduate blend of professional and liberal arts courses in the context of a major research institution (text continued on page 24.)

Table I
WOMEN FACULTY AT PENN

Office of Equal Opportunity April 1976 Data Revised July 1976

	SAMP	University	SAMP/Univ.
Professor	1	27	3.7%
Associate Professor	4	52	7.7%
Assistant Professor	3	107	2.8%
Instructor	5	42	11.9%
TOTAL	13	228	5.7%

Table III
**ADMINISTRATIVE OFFICERS, DEANS,
DIRECTORS AND DEPARTMENT CHAIRMEN, 1975-76**

Tabulated from Provost's List, 1975

	Total	# Women
Administrative	23	1
Academic Deans	14	2
Nonacademic Deans	2	1
Department Chairmen: FAS.....	30	1.5*
Engineering.....	8	0
Fine Arts	5	0
Wharton	8	0
Medicine	23	0
Veterinary Medicine	3	0
Dental Medicine	17	1
SAMP	3	3
Graduate Group Chairmen	62	0
Heads of Centers & Institutes Within Schools:		
Fine Arts	1	1
Wharton	17	0
Health Area	23	0
Directors & Administrative Heads, Academic	17	3
Directors & Administrative Heads, Nonacademic	40	5

*One woman acting chairman, one semester.

Table II
UTILIZATION AND GOALS FOR WOMEN FACULTY (FULLY-AFFILIATED TENURED OR TENURE-ACCRUING RANKS ONLY)

Fall 1973 Data from Office of Equal Opportunity

Fall 1975 Data from Office of Equal Opportunity

Unit	Total Faculty	% Women Avail. in Disciplines	No. Expected	Present No. Women	Goal (No.) Increases	Total Faculty	% Women Avail. in Disciplines	No. Expected	Present No. Women	Goal (No.) Increases	Net Gain Toward Goal Over Past Two Years
FAS	(497)	—	(60)	(40)	(20)	500	12.1*	60	47	13	7
Phys. Sci.	108	4.7	5	2	3						
Soc. & Life Sci.	62	15.6	10	7	3						
Humanities	160	17.7	28	21	7						
Former GSAS Depts.	70	12.0 ¹	8	4	4						
Former Wharton Soc. Sci. Depts.	97	9.7	9	6	3						
Wharton (Mgt.)	121	5.8	7	5	2	132	5.8	8	5	3	(1)
Medicine	(522)	—	(66)	(59)	(7)	645	12.6*	82	72	10	(3)
Basic Sci.	148	13.8	20	17	3						
Clin. Studies	374	12.2	46	42	4						
Engineering	68	0.4	0	1	0	81	0.4	—	2	0	0
Grad. Education	38	19.8	8	7	1	27	19.8	5	2	3	(2)
Grad. Fine Arts	35	7.1 ²	3	4	0	36	7.1	3	4	0	0
Social Work	28	36.3	10	11	0	26	36.3	9	11	0	0
Law	27	4.7	1.3	2	0	27	4.7	1.3	1	0	0
Annenberg	10	15.9 ³	2	1	1	9	15.9	1	1	0	0
Dental	85	2.1	2	15	0	92	2.1	2	16	0	0
Veterinary	103	7.4	8	10	0	101	7.4	8	12	0	0
SAMP	15	(NA)	—	10	—	16	(NA)	—	13	0	0
Nursing	46	97.0	45	43	2	43	97.0	42	41	1	1

1. GSAS availability estimated for "all disciplines" since individual counts for these disciplines are not available.
2. GSFA recalculated on basis of art, architecture, city planning, and landscape architecture.
3. Annenberg calculated on basis of speech and dramatic arts.

*Weighted average of subjects used in 1973 breakdown

provides far more than an entry-level degree for a specific field. As a model interdisciplinary program, it opens up for its students the possibility of a range of interdisciplinary opportunities at the graduate level. This will prove to have increasing meaning for women as changing social attitudes encourage them to develop themselves professionally.

In summary, SAMP represents an important access route for women for education and training in a useful and remunerative field; in a time of competition for students, it also offers attractive and accessible programs for older women who seek to return to school. From both of these points of view it must be regarded as a vehicle for giving women opportunities they will have to forego if the school is closed and for enriching the University with a talented pool of students.

VII. CONSEQUENCES OF A PHASE-OUT OF SAMP

ON THE UNIVERSITY'S POLITICAL AND FINANCIAL RELATIONS WITH VARIOUS LEVELS OF GOVERNMENT AND THE COMMUNITY

by W. Allyn Rickett

For various reasons the Board was forced to confine its inquiry into this subject to members of the administration and to certain faculty familiar with governmental efforts, especially those of Harrisburg, in the health field. It was the general consensus of those interviewed that the phasing out of SAMP would most likely have no critical impact on the ability of the University to acquire either general funding or funding for its medical programs.

However, in regard to the University's relations with the Commonwealth, several people consulted caution that the matter would have to be handled with care. They pointed out that the University was now engaged in sensitive negotiations in connection with funding for the School of Veterinary Medicine, and in view of the general interest among state legislators in strengthening primary health care, the consequent high priority on training allied health personnel, and the special interest among upstate legislators from rural areas in seeing that state-supported institutions provide personnel to meet the needs of their constituents, the phasing out of SAMP could become a matter of some general concern. It is also anticipated that the SAMP alumni and others connected with the school will present SAMP's case to certain of the legislators. Therefore it was stressed that the University should be prepared to justify its decision; arguments of financial necessity would probably receive a sympathetic hearing, but arguments which appeared to be based on elitist educational goals could well be questioned.

On the national level, there seems to be no reason to believe that the phasing out of SAMP in itself would have any effect on the funding of other programs. However, it would undoubtedly mean the cancellation of relocation funds already awarded to SAMP, and questions could be raised concerning the effect of such action on the University's position in regard to affirmative action in the employment of women.

Although there may be some criticism at the local level if SAMP were closed on the grounds that this is another example of the University's failure to consider the practical needs of the community, it does not appear that there will be any strong reaction from the City since Philadelphia possesses other institutions which provide training for allied medical personnel.

The Board also found it very difficult to assess the possible impact of closing SAMP on alumni (except for SAMP alumni and the Association of Alumnae of the University which are adamantly opposed to such action), corporation, and foundation support for the University or on the general question of the University's public image.

APPENDICES TO THE REPORT OF THE STEERING COMMITTEE

Appendix A

PEOPLE INTERVIEWED

May 21, 1976, to July 21, 1976

- 5/21 Thomas W. Langfitt, Vice-President for Health Affairs
Eliot Stellar, Provost
Curtis R. Reitz, Professor of Law, former Provost
- 5/27 Donald P. Ash, Jr., Physical Therapy Certificate '76
Susan Hill, Occupational Therapy '77
Caryl Junas, Medical Technology '78
Pamela Taxel, Physical Therapy '76
- 6/1 John N. Hobstetter, Associate Provost for Academic Planning
Donald C. Carroll, Dean, The Wharton School
- 6/2 Eleanor J. Carlin, Professor & Chairman, Physical Therapy
Patricia A. McFate, Vice-Provost for Undergraduate
Studies and University Life
Eugene Michels, Associate Professor of Physical Therapy,
Acting Dean, School of Allied Medical Professions
- 6/3 Roma E. Brown, Associate Professor & Chairman,
Medical Technology
Nancy B. Ellis, Associate Professor & Chairman,
Occupational Therapy
- 6/7 Britton Harris, Chairman, Academic Planning Committee
- 6/9 Leonard D. Miller, Professor of Surgery, Director,
Harrison Department of Surgical Research
Edward J. Stemmler, Dean, School of Medicine
- 6/11 Martin Meyerson, President
Stanley J. Brody, Professor of Community Medicine
and Psychiatry
Charles G. Hertz, Associate Clinical Professor of
Pediatrics, Director, Program of Comprehensive
Care and Family Medicine
- 6/15 Johanna Barbati, Associate Professor of
Occupational Therapy
Mary Ann McGuckin, Instructor, Medical Technology
Elsa L. Ramsden, Ed.D., Associate Professor of
Physical Therapy
- 7/21 Thomas W. Langfitt, Vice-President for Health Affairs
Eugene Michels, Roma E. Brown, Nancy B. Ellis

Appendix B

DOCUMENTS RECEIVED

- 1) Letter dated April 29, 1976, from Vice-President Langfitt to Provost Stellar Recommending phase-out of SAMP.
- 2) Staff report, Dec. 1975 prepared by the Office of the Vice-President for Health Affairs Re: SAMP
- 3) Reply to staff report, May 11, 1975, from Eugene Michels, acting dean of SAMP re: The recommendation of the Vice-President for Health Affairs to phase out the three programs in the School of Allied Medical Professions.
- 4) Curricula vitarum of the SAMP faculty supplied by SAMP.
- 5) SAMP: Report on the Reallocation Implication of its Closing by Robert Zemsky and Randolph Porter, June 21, 1976.
- 6) Comments on the Zemsky-Porter report by Eugene Michels, June 21, 1976.
- 7) Cost of an "Ideal" SAMP, by John Hobstetter, June 23, 1976.
- 8) Memorandum from Eliot Stellar on tenure and contract obligations of SAMP, June 24, 1976.

Conclusion and Recommendations

of the 1975-76 Steering Committee Serving as a Reallocation Review Board

The problem of the School of Allied Medical Professions is a difficult one because evaluation of the major features of the school's programs and their place in the University is very mixed. On the one hand, it is clear that the scholarly stature of the SAMP disciplines is at best only beginning to develop and that the SAMP faculty, particularly the senior faculty, by reason of their training, perspective, relative intellectual isolation, and considerable commitment to other activities have little promise of participating in that development. On the other hand, the educational program at SAMP, geared to the training of practicing physical therapists, occupational therapists, and medical technologists at the bachelor's level is of very high quality. Furthermore, the undergraduate program brings a great deal to the educational life on campus in terms of variety of student perspective and focus, professional opportunities for women, and very well-motivated students of quite satisfactory quality. On the other hand, the University, particularly through its strengths in the liberal arts and basic sciences, offers a great deal to the SAMP student. From the viewpoint of service, SAMP is part of the University's attempts to meet a need in health care that is real and that will almost certainly grow in the future.

However, training at the bachelor's level as a professional end is not the normal focus for undergraduate-professional education at Pennsylvania. Moreover the rising expectations of the allied health field itself now demand more advanced training, including training in research which the present SAMP cannot provide. Everyone we have interviewed, including the SAMP faculty and its students, agrees that SAMP cannot continue at its present level and still maintain a position of leadership in the field and a standing commensurate with being part of the University of Pennsylvania. The bare minimum requirement for continuing SAMP would, therefore, appear to be the institution of an advanced master's program with a strong research component and perhaps the eventual introduction of a Ph.D.

This requirement raises some major questions:

1. Does the present SAMP have the leadership potential within itself to develop such a program and research commitment?
2. Could such leadership be acquired in sufficient quantity and quality to establish new directions for SAMP and assure their continued development?
3. Does the University have itself, or would it be able to procure, the financial resources necessary to support the development of a new SAMP without draining away resources from other vital programs?

It is our conclusion that the answer to the first question is largely negative. Although the present SAMP faculty has clearly demonstrated its excellence in teaching and in the preparation of first-class professionals, and although some of the current SAMP junior faculty have demonstrated considerable research potential, the SAMP senior faculty has not demonstrated strength in research. There are various reasons for this including the general state of the field, which up to now has been more concerned with

producing adequately trained practitioners than developing its own areas of science. However, the very limited research orientation of the SAMP faculty in the past provides little hope that they will be able to provide the necessary leadership for a new graduate program with a strong research component.

The answer to the second question also remains somewhat doubtful. It would take perhaps five or six high quality senior, or relatively senior, people plus an outstanding new Dean to provide the kind of leadership necessary for an acceptable new graduate program. Given the apparent shortage of qualified senior personnel, the recruitment of outside leadership would probably be difficult, but it is still possible that the University of Pennsylvania, with its fine reputation both in regard to SAMP and related scientific and management fields, could attract such people if its commitment to the development of a new SAMP were made clear.

The answer to the third question is extremely complex. Although the school at present is largely self-supporting, there seems to be no way in which either the school itself or the University could support the "ideal SAMP" as outlined by Dr. Hobstetter. Even the addition of five or six senior, or relatively senior, faculty plus a new Dean—the minimum requirement for turning the present SAMP program toward new directions—could well amount to several hundred thousand dollars per year in ongoing expense to the University even allowing for considerable support from research grants. It should be noted, however, that the administration appears to have made no serious attempt to locate outside funds for the development of a new SAMP, and though the opinion expressed by Dr. Langfitt concerning the limited possibility of outside funding may be valid, this problem deserves further inquiry before it is used as a major reason for eliminating SAMP.

Recommendations

The present SAMP has one proven strength: the excellent training of practicing professionals. At the present stage of health care needs in the Commonwealth and in the nation, rejecting SAMP entirely would negate its principal service function and therefore be irresponsible as well as politically unpopular. After lengthy discussion of these questions and other considerations presented in the body of the report, the Committee has narrowed to the following two the options it wishes to recommend for consideration by the administration.

1. *Upgrade SAMP.* Although the SAMP undergraduate and certificate programs are both considered excellent, as is their general contribution to the University and community at large, it is agreed by all that SAMP as presently constituted cannot meet the rising needs of the field of the standards of the University. Therefore, the administration should attempt to upgrade the present SAMP program by providing it with the leadership and personnel necessary to develop a graduate program, beginning at an advanced master's level and including a strong research component. This will require a serious effort on the part of the

administration to seek outside funding, the recruitment of a new Dean and several new faculty members, plus a clearly stated commitment to continue the development of the school as opportunity permits and the expectations of the field rise. The new Dean should be given every possible support in seeking additional outside funding for training and research and in developing close working relations with other programs in the University. The goal would be to develop the new SAMP not only as an excellent program for training high level practitioners and allied health administrators, but also as a leading research school in the field.

2. *Joint allied health program with Thomas Jefferson University.* Dr. Langfitt's original letter of April 29 suggests that Thomas Jefferson University may be interested in acquiring our program. We suggest as our second option not the complete transfer of our program to Jefferson, but rather a joint program in which the liberal arts and preprofessional parts of the program remain at Pennsylvania while the professional parts, at least for physical and occupational therapy, are transferred to Jefferson. This could involve various options such as a 2 + 2-year program leading to a joint degree or a 3 + 2-year program leading to a bachelor's degree from Pennsylvania and a master's degree from Jefferson. In addition to the general problems involved in administering such a program the committee felt a special concern about the amount of fragmentation such an arrangement might create in the lives of the participating students. Clearly, careful attention would have to be given to this problem in order to avoid the weakness of many other such split programs in the allied health field. The advantages of such a solution, however, are that the opportunities for entering such a program through the University of Pennsylvania would still exist. The undergraduates in the program would still benefit from our basic education and enjoy even more options in terms of professional fields by attending Jefferson. Jefferson would benefit from the high quality of applicants that the affiliation with Pennsylvania would continue to ensure, while Jefferson would also be freed of the responsibility of giving the liberal arts and basic science components of the curriculum. The University would be taking a responsible stance with regard to the health needs of the community by not abandoning its affiliation with the program, while the professional aspects of the program would be located in a far more congenial home.

Much must be explored and negotiated in such an arrangement and most of it is outside our competence. We would suggest a few principles.

a. There should be a University of Pennsylvania degree of some sort associated with the program.

b. Admission should be first to Pennsylvania and, no further admission hurdle (beyond satisfactory performance) should be required.

c. The professional faculty in the allied health fields should be members of the Jefferson faculty, but there should be a joint Jefferson-Penn committee to manage the program and oversee requirements, etc.

d. Some sort of "SAMP" should remain at the University to administer and coordinate the program, establish degree requirements, recommend degrees, etc; but that faculty, on the model of the old College for Women, should be made up of faculty with primary appointments elsewhere in the University. Some, if not all, of the professional faculty from Jefferson might have adjunct appointments to this faculty.

Perhaps such a program, with the professional component transferred to Jefferson, could be tried on an experimental basis for ten years. In recommending this option the committee wishes to express two other special concerns: 1) that the Provost reaffirm his assurances that tenure and contractual commitments made by the University to the current SAMP faculty will be honored, and 2) that the loss of any positions held by women in SAMP will be compensated for by the University's attracting and appointing additional women faculty in other parts of the University.

Consensus

In recommending the above two options the committee was by no means completely unified in its opinions. The first option to upgrade the present SAMP was considered a viable alternative by eight members of the committee with varying degrees of enthusiasm for such action. It was completely rejected by one member. The second option, a joint program with Jefferson, was considered viable by all members, but again with varying degrees of enthusiasm. In a vote on the matter of preference for the two options, five members voted for the first option, four for the second.

D. The School's Response to the Steering Committee Report

September 14, 1976

Dr. Eliot Stellar
102 College Hall/CO

Dear Eliot:

Enclosed is the reply to the report of the Steering Committee on SAMP. We made every effort to confine both the length and the scope of our reply in order to concentrate upon what we saw as the key issue and the information germane to that issue.

You must know that by now we have volumes of information and analyses which could be put forward. We prefer to hold this until such time as your comments and questions will assist us in identifying which, among all of it, is most pertinent.

Sincerely yours,
Eugene Michels

SAMP RESPONSE TO THE STEERING COMMITTEE REPORT AND CONCLUSIONS AND RECOMMENDATIONS

The Reallocation Review Process

The three Chairpersons and the Acting Dean of the School of Allied Medical Professions (SAMP) commend the members of the 1975-76 University Council Steering Committee for the thoroughness and sincerity with which they reviewed the recommendation of the Vice-President for Health Affairs that SAMP be phased out. As a reallocation review board, the Committee made every reasonable effort to familiarize itself with the faculty, students, programs, and disciplines of the School. The SAMP participants were given opportunities to supply information and opinion and to respond to the first draft of the several sections contained in the Committee's *Report*. The procedures used by the Steering Committee were in keeping with the proposed guidelines for reallocation review, and we conclude that the process used by the Committee was a fair one.

The Conclusion of the Reallocation Review Board

The conclusion that the present SAMP does not have the leadership potential within itself to develop a graduate program with a strong research component appears to rest chiefly upon the evaluation of the current SAMP senior faculty and the orientation of the SAMP faculty in the past. The comments which follow are intended to assist in evaluating this conclusion.

1. *Senior Faculty.* The SAMP participants, being four of the six senior faculty members in the School, do not disagree with the summary statements about the senior faculty which appear in the body of the *Report* (bottom p. III-9; first paragraph under *Prognosis* on p. III-10; bottom p. V-1; lines 6-10 on p. V.6*). Given that one of the six persons is in the terminal year of appointment, that three carry full-time administrative responsibilities as department chairpersons, and that one is currently serving as the acting dean of the School, only one senior faculty member remains under the current circumstances to become substantially involved in research activities or to serve as a role model or nucleus for the

*Reference is to a mimeographed version. See page 12 in this supplement.

development of scholarly research among the junior faculty in the School's three departments.

A partial remedy for the dilemma lies in the possibility of making an appropriate replacement for the anticipated vacancy, and appointing a dean to relieve one senior faculty member of administrative responsibilities. A potential nucleus of three senior faculty members, two of whom have research and publishing experience and one of whom would be sought to bring that experience to the School, would not be insignificant in its effect on the scholarly research skills which are now developing among the School's seven fully-affiliated assistant professors.

In judging the leadership potential of the six senior faculty, one must consider not only their administrative responsibilities, their distribution among three disciplines of departments, and their past scholarly productivity, but also their ability to reorient the activities of their departments and to build a faculty capable of research and graduate teaching.

2. *Orientation of the Faculty.* Established as the first school of its kind within a university, in 1950, SAMP has offered baccalaureate and postbaccalaureate certificate programs in occupational and physical therapy since its founding. The baccalaureate program in medical technology was started in 1952 and graduated its first class in 1956, twenty years ago. Over the years, the faculty were oriented primarily to providing high-quality instruction and rigorous programs of study, as well as to increasing the size and quality of the undergraduate student body and enhancing the acceptability of a "SAMP" as an undergraduate school within a university (and especially within our University). Under the very able leadership of its early senior faculty and dean, the faculty were successful in their aims—particularly as perceived by students, alumni, and alumnae, members of the professions, professionals who sought positions on the School's faculty, and a great many universities which have since copied the model established at Pennsylvania.

The early senior faculty were outstanding leaders, educators, and "builders" (not researchers) who guided the development of the School's programs and faculty into the late 1960s and early 1970s, overlapping partially the change in leadership of a new dean. New chairpersons were installed in each of the three departments (occupational therapy in 1969, physical therapy in 1971, and medical technology in 1974). Not until the early 1970s was there serious consideration of, and planning for, graduate program activity and development of a strong research component in the school. Concurrent with these changes in leadership and the efforts to redirect the School's activities was the concatenation of events which has had a marked effect on the aspirations of SAMP: a change in leadership in the health affairs area, the report of the University Development Commission, a second change in leadership in the health affairs area, the task force study of SAMP and Nursing, development and long-range planning, changes in the nation's economy and their effects on University planning, the resignation of the School's dean, and year-long examination of the School's future status.

An important question is one of whether there are any visible signs that the orientation of the SAMP faculty has changed, or is changing, in the direction intended since the early 1970s. Tables 1 through 3 present relevant data, at five-year intervals over the 20-year period from 1956 to 1976, on the SAMP fully-affiliated faculty. Inspection of the tables reveals that, with its current 16

fully-affiliated faculty, SAMP has greater proportions now than at any time in 20 years of (1) faculty in professorial ranks, (2) faculty with advanced degrees (degrees higher than that offered by the School), (3) faculty pursuing the doctoral degree, and (4) faculty who have research experience (the proportion of faculty authors does not exceed the proportions in 1956-57 and 1961-62). A glance at the data in all three tables indicates that the most striking change in these several variables occurred in just the past five years, from 1971 to 1976 (when, coincidentally, the total number of fully-affiliated faculty increased 23% and the total student enrollment rose 41%).

Some of the improvement in SAMP faculty quality (as judged by the indicators mentioned above) was achieved by careful replacement appointments and addition (the entire faculty in medical technology was revitalized in 1974) but much of it was accomplished by the upward movement (in ranks and degrees) of junior faculty. This improvement or reorientation, which is still underway, has had a demonstrable effect in two vital areas: (1) the number of interschool linkages in which SAMP faculty participate has increased many-fold over what it was only five years ago, and (2) the School's course offerings have changed in just the last four years to reflect the faculty's increased experience in methods by which new knowledge is acquired and their contributions to that knowledge—ten advanced electives (at the 500 level) have been developed in anticipation of planned graduate program activity.

The characteristics of the current SAMP faculty may not compare favorably with those of faculties in long established disciplines where major emphasis is on research and doctoral training. On the other hand, their characteristics do compare favorably with those of other University of Pennsylvania faculties in disciplines which do not (or do not yet) have major emphasis on research and doctoral training. The point to be made is that the SAMP faculty does show visible signs that it is moving beyond (not necessarily breaking with) its past orientation. To the degree that one can attribute change of this kind to leadership in a school, the senior faculty, the current three chairpersons, and the former dean must be given credit for what has occurred under more than the usual stresses and constraints encountered by academic units at the University. In the face of this more detailed analysis, the School does have leadership potential for developing a graduate program with a strong research component.

The Recommendations

The lengthy response to the evaluation of the current SAMP senior faculty and the orientation of the SAMP faculty was prompted by the perception that much of the remainder of the Steering Committee's *Conclusion and Recommendations* turns crucially upon the consideration of the potential within SAMP for doing things beyond what it now does very well (we take as given the strength of the current programs, the attractiveness of the programs to increasing numbers of capable young men and women, the reputation of the School, and the importance of the School and its programs in a variety of sectors—not just because these are our own views but because of the supporting evidence which has accumulated in the past several months).

The option of a joint program with Thomas Jefferson University will, indeed, require considerable exploration and thought. Questions and comments from the School on this option would most certainly make the length of this response excessive. In any event, the full exploration of this option should be considered only if the academic decision is first made that the University of Pennsylvania should not have a SAMP in any manifest form.

The Report

Many of the comments on only certain sections of the *Report* (for example, comments on the assumptions which underlie the financial projections of phasing in an "Ideal" SAMP or phasing out the current SAMP; or questions about the future of undergraduate education at Pennsylvania) seem best reserved for discussion at an

appropriate time. Written comments on these matters were supplied to the Steering Committee in July and can be provided or expanded upon as the need arises. We have no argument with the Steering Committee on the several topics which could be commented upon, and prefer at this time not to obscure the academic issue posed by the first recommendation of the Steering Committee that the School be retained and upgraded and by the recommendation of the Vice-President for Health Affairs that the School be phased out.

—Eugene Michels, Acting Dean
School of Allied Medical Professions
September 14, 1976

Table 1
**NUMBERS WITHIN RANKS OF SAMP
FULLY-AFFILIATED FACULTY, 1956-1976**

	1956-57	1961-62	1966-67	1971-72	1976-77
Professor	2	2	1	2	1
Assoc. Prof.	1	3	4	2	5
Asst. Prof.	2	2	2	4	7
Associate	2	1	0	0	0
Instructor	2	2	4	5	3
Total	9	10	11	13	16
Total Student Enrollment	161	121	156	295	416

Table 2
**HIGHEST EARNED DEGREES HELD BY SAMP
FULLY-AFFILIATED FACULTY, 1956-1976**

	1956-57	1961-62	1966-67	1971-72	1976-77
Doctorate	0	2	2	2	4
Master	5	5	4	5	9
Bachelor	4	3	5	6	3
Total	9	10	11	13	16
Full.-Affil. Faculty Pursuing the Doctorate	1	0	1	2	7

Table 3
**NUMBERS OF SAMP FULLY-AFFILIATED FACULTY
WITH RESEARCH AND
PUBLISHING EXPERIENCE, 1956-1976**

	1956-57	1961-62	1966-67	1971-72	1976-77
Research ¹	2	3	4	3	10
Authors	5	6	5	3	9 ²
Total No. Full.-Affil. Faculty	9	10	11	13	16

1. Research experience defined as having planned and conducted basic or clinical research.

2. As of 7/28/76, nine of the 16 fully-affiliated faculty (nine of the 13 with professorial rank) had a total of 94 publications; two partially-affiliated faculty with primary academic appointment in SAMP accounted for 11 additional publications.